UNIVERSIDADE FEDERAL DE SANTA CATARINA
Departamento de Língua e Literatura Estrangeiras

TOWARDS AN ERROR-BASED ANALYSIS OF ASSERTIVE, NON-ASSERTIVE AND NEGATIVE FORMS IN ENGLISH

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A meu pai (in memoriam),

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ABSTRACT

This study considers some theoretical aspects involved in the use of Assertive, Non-Assertive and Negative forms of English. It analyses main currents of thought centering around the theories of Error Analysis and Contrastive Analysis.

A pratical aim of this work, however has been to identify strategies that Brazilian students utilize to master these English forms. To achieve this, pratical tests were applied to a representative number of student informants at Paraība Federal University who study English for professional purposes.

The computerized analysis of the test results come out as a contribuition to the teaching of English as a foreign language in Brazil.

RESUMO

O presente estudo aborda alguns aspectos teóricos do uso das formas "Assertive", "Non-Assertive" e "Negative" da língua Inglesa, ao mesmo tempo que analisa as principais correntes de pensamento que regem as teorias da Análise de Erros e Análise Contrastiva.

Um objetivo prático deste trabalho, no entanto, identifica as estratégias que estudantes brasileiros utilizam na aquisição destas formas inglesas. Para isto, testes foram aplicados a um número representativo de alunos da Universidade Federal da Paraíba, que estudam o idioma inglês para fins profissionais.

A análise feita a partir dos resultados estatísticos dos testes, dados por computador, é considerada uma contribuição para o ensino da língua Inglesa como língua estrangeira no Brasil.

INTRODUCTION

The cause of learning difficulties has always been a source of worry to linguists, psycholinguists and teachers. Discovering the source of such problems has been a factor of major importance in the study of the acquisition of a foreign language especially in relation to language teaching.

Having this in mind, we thought that the main purpose of our study should focus on the reasons why Brazilian students from Universidade Federal da Paraiba(majoring in English), err in their production of Non-Assertive, Assertive and Negative Forms. The source of these errors may be revealed through Error Analysis and whenever interference from Portuguese is suspected, Constrastive Analysis will be also used. These linguistic approaches will be utilised in an attempt to explain the "unacceptable" sentences produced by our students when using such forms.

Through the analysis of the errors of students we may be able to detect some of the causes responsible for the occurrence of such errors as we know that the errors are "an indication of the difficulties" students face when learning a foreign language.

Our analysis will be based on the assumption that the structure of English in relation to Non-Assertive forms as

opposed to Assertive and Negative types forms part of a system that differs in many respects from Portuguese.

After this discussion we hope to identify a number of strategies which may be helpful to the student in learning these specific items and also to modify or suggest techniques in the methodological field that serve towards producing a more realistic approach to the teaching of English by providing improved communication techniques in the classroom.

The first chapter of this dissertation will be devoted to a summary of the main currents of thought centering around the theories of Error Analysis and Contrastive Analysis, the aim being to make use of the theories for a better understanding of the material studied.

The second chapter will present the theoretical foundations for the use of Non-Assertive, Assertive and Negative forms based on the grammatical points raised by authors such as Quirk, Greenbaum, Leech, Svartvik, Klima, Bolinger and others, the object being to provide an overall view of the syntactic and semantic uses of such forms.

In the third chapter, we will present the experimental procedures we have used. Tests will be applied to students who are currently majoring in English at Paraiba Federal University who are in the 5th, 6th and 7th stages of the course.

In order to provide a means to focus on the ability of student informants to produce Non-Assertive, Assertive and Negative forms in English, the tests will be drawn up centering

on specific points related to these forms. These tests will be based on rules established by the authors already presented in chapter two whom, we feel, are recognized as leading authorities in the field of English grammar.

We will also attempt to analyse the results obtained from our tests and also the errors made by the students in relation to the target rules already presented and the linguistic theory responsible for the explanation of the causes of these errors.

Finally conclusions will be attempted following the application of the theory of Error Analysis which may or may not confirm our hypotheses.

Chapter I

CONSIDERATIONS ON SECOND/FOREIGN LANGUAGE LEARNING

There have been many studies concerning second and foreign language acquisition. Many researches propose that the learner creates for himself a certain number of hypotheses about the grammar of the target language which are tested whenever he tries to show his "competence" in the language acquired. According to Selinker (1974:31) the learner is also able to discover new strategies for his communication in the target language when those hypotheses do not apply and such a process operates either consciously or unconsciously revealing his language system.

This idea has been shared by linguists who have been attracted to the problem of second and foreign language learning. For some time, studies have been made about the process of acquiring a "new" language and many conclusions have been reached with the help of psychological theories in an attempt to explain the strategies employed by the learner who acquires a foreign language.

Traditionally, Contrastive Analysis was applied to language teaching and acquisition as a way to predict the learner's difficulties. Lado (1958:1-8), the great defender of Contrastive Analysis, argues that a comparison between native and foreign language is necessary in order to find out the differences and similarities of the two languages. Such

comparison would predict the learner's difficulties in the foreign language being acquired. He also believes that "those elements that are similar to his (the learner's) native language will be simple for him, and those elements that are different will be difficult."[1] In this way, Contrastive Analysis accounts for the prediction and description of the learner's difficulties.

Johansson (1975:322-323) points out that Contrastive Analysis can only predict some of the learning problems and such predictions are often ambiguous, depending on the linguistic manner used to describe the native and foreign languages. Contrary to the idea that not all difficulties the learner may have result from influences of the mother tongue, Johansson attributes many learner's errors to "complexities within the foreign language." He also agrees that the strategies for learning a foreign language may be independent of the strategies used by the learner in the acquisition of his native language.

Controversies about the efficacy of Contrastive Analysis have been raised. Tran-Thi-Chau (1975:124) observes that Contrastive Analysis ignores many of the factors which affect the learner's performance such as his individual strategies and procedures. Johansson (op.cit.) goes on to say that errors caused by such factors are not predicted by Contrastive Analysis alone since such theory cannot predict errors caused by interference within the target language (i.e.

[1] Robert Lado, *Linguistic Across Cultures*, p. 2.

intralingual interference).

It may seem evident that Contrastive Analysis, traditionally used, does not make use of psychological concepts in the explanation of the learner's difficulties.

We perceive that there have been many divergences among the linguists concerning the acquisition of the "new language" and that their objective of study has changed. Research in this area has resulted in greater emphasis being placed on the application of the theory of Error Analysis to the study of foreign or second language acquisition.

In other words, no longer do linguists universally agree that the Contrastive Analysis of two or more languages would necessarily identify the major areas of difficulty for student learners, but many linguists now feel that the analysis of students' errors would provide a means of gaining a more insightful understanding of the nature and cause of student errors as not all major areas of difficulty are due to interlingual interference.

Corder (1975:410) considers language learning as "fundamentally a form of cognitive learning." That is, the learner uses his cognitive capacities in the process of learning a language as he does in other cognitive learning. He also believes that language is a "creative activity" for the learner creates a language system for himself sharing the properties of the target language and such process is continuous through the whole process of learning.

Another point Corder calls our attention to concerns

errors as being evidence of the learning process which may be associated with differences in maturational development, motivation and learning situations, and that such errors should not be explained through comparison with the native language. In this way, analysis of learners' errors may reveal an indication of his competence in the language being acquired, his major areas of difficulty and perhaps some of the psychological reasons for such difficulties.

This view is shared by other linguists and it supports the theory of Error Analysis which "aims at systematically describing and explaining such errors."[2]

Through Error Analysis, says Johansson (1975:248), considerable information may be obtained concerning the learner's difficulties at various stages of learning since it is possible to identify those areas in which the target language rules have or have not been internalized.

Corder's (1975) view is that "the structure of every language is sui generis and therefore is to be described in its own terms."[3] If this is in fact true, a comparison of languages would be of limited value. This opinion would appear to contrast with that of Chomsky and other post-structuralists who developed the idea of seeking universal features in human language and also explaining the learning process (including foreign language learning) in psychological

[2] Stig Johansson, "The Uses of Error Analysis" (I), *English Language Teaching Journal*, p. 247.

[3] S.P.Corder, "Error Analysis, Interlanguage and Second Language Acquisition," *Language Teaching of Linguistics*, p.202.

terms closely related to the properties of the human mind.

From these conclusions, Corder sees "language acquisition as a problem of cognitive learning as the possession of knowledge of a certain kind (competence) rather than as a set of dispositions to respond in a certain way to external stimuli."[4] It is a view that has been applied by some linguists to second and foreign language acquisition. No longer is Behaviourism the basis for all language teaching materials and techniques. More and more emphasis in being placed on cognitive or mentalist techniques and strategies of learning.

The use of Error Analysis is mainly based upon the assumption that errors occur in relation to the degree of learning difficulty and they may not be linked to differences between the native and the foreign languages.

The consideration of such views as these has led us to conclude that both Contrastive and Error Analyses have their own linguistic value. Error Analysis is broader in its treatment of the learning process. As Corder (1975) emphasizes "the learner is a native speaker of his own peculiar language constructing for himself a grammar of the target language on the basis of the language he is exposed to."[5] An investigation of factors indicating the learner's "competence"

[4] S.P.Corder, "Error Analysis, Interlanguage and Second Language Acquisition," *Language Teaching of Linguistics*, p. 203.

[5] ibid, p. 202.

and "performance" serve to provide insightful analysis of his learning process.

Johansson (1975) presents the "weak version" of Contrastive Analysis "as part of the explanatory stage in Error Analysis" which may be used to "explain certain difficulties rather than to predict them."[6] Explanatory hypotheses may thus be formulated but little value is placed on the ability of Contrastive Analysis to predict errors.

We have observed that linguists sometimes present Error Analysis as an "alternative" to Contrastive Analysis. It is important to note, however, that these ideas view language learning from different aspects which may or may not be mutually exclusive. Contrastive Analysis is based on the view that students' errors are caused by interference with the mother tongue (the strong version). Error Analysis, on the other side, sees errors as being the product of students' hypotheses in an attempt to use the language he is trying to learn.

Both concepts have an important role in our study. The language of the learner or as Selinker labels it "interlanguage" will be our primary interest in this dissertation through which we will attempt to identify the sources of students' errors. This is not to imply that we shall base our investigation solely on the conclusions of the proponents of Error Analysis. We maintain the view that Contrastive

[6] Stig Johansson, "Uses of Error Analysis and Contrastive Analysis (II)," *English Language Teaching Journal*, p. 333.

Analysis can also be revealing as it provides a basis for identifying errors formulated from the students' first language, depending upon the type of error under consideration. Thus, we may identify by means of Contrastive Analysis certain misuses of the language system being learnt.

We are also interested in discovering the possible causes of our students' "deviant structures" particularly in the use of SOME-ANY-NO forms by relating them to problems of the target language itself (English), or seing them as a result of first language interference- Portuguese in our case.

1.1. The Learner's language

When one is learning a foreign language, the language he speaks or writes may contain utterances considered "unacceptable" or "erroneous" in relation to the rules of the target language. This aspect of the learning process, similar in many respects to the learning of the native language, indicates that errors are necessary in the acquisition of language. Through the learner's errors we may be able to grasp not only that certain rules of the target language have not been mastered but also discover the source of such deviances whenever possible.

Another significant factor is that the learner's errors

demonstrate his competence in the foreign language and at the same time help the teacher in the preparation of teaching materials and in the planning of courses as they reveal to the teacher prime areas of difficulty encountered by the learner. It is necessary to point out, however, that errors become relevant when they are seen as part of the system of the second or foreign language learner.

The learner's competence in the foreign language deserves special attention because it may indicate his strategies for learning the language system. Corder (1975) suggests that "the learner creates a language system for himself that can be used for a range of communicative purposes."[7] He labels the learner's language "transitional competence" which stands for an intermediate stage between two languages (mother and target languages), similar in some respects to Selinker's (1974) "interlanguage"—an intermediate stage between the native and target languages.

However, although various terms have been used to describe the language of foreign learners it appears that most linguists would agree that the new language system is, as Corder (1975) suggests, "a system in itself and that it should be studied in its own terms."[8] The new language evolves gradually, the learner assimilating new structure and

[7] S.P.Corder, "The Language of Second-Language Learners," *The Modern Language Journal*, p. 410.

[8] S.P.Corder, "Error Analysis, Interlanguage and Second Language Acquisition," *Language Teaching of Linguistics*, p. 202.

vocabulary and at the same time making his own hypotheses for rules of the new system. Such hypotheses may be modified as the student learns by explicit explanation from his teacher or by his own realization and correction of errors.

Nemser (1974:55) defines learner's language as an "approximative system" which is seen as a "linguistic deviant system" employed by the learner when he uses the target language. Such a system approximates the target language in proportion to the learner becoming independent of interference with the mother tongue. He also suggests that the learner's language has an organized structure but it is always changing because new elements appear during the process of learning. The learner then tries to achieve competence although such competence is said to be distinct from native-type competence (i.e. interlanguage).

The learner's language (interlanguage) is said to have similarities to both the target language and his mother tongue. His mastery of the foreign language is in a constant state of evolution. This "dynamic characteristic" results in the formation of hypotheses about the target language which the learner creatively employs when he tries to communicate. The nature of these hypotheses, according to Corder (1975:410-413), depends on several factors such as the learner's "cognitive structures" including those of the mother tongue, his age, and the linguistic environment he is exposed to, which could be native-speaker-like, a classroom situation and

[8] S.P.Corder, "Error Analysis, Interlanguage and Second Language Acquisition," *Language Teaching of Linguistics*, p. 202.

so on. Corder sees the linguistic setting as "crucial" in influencing the nature of the hypotheses the learner will formulate and use..

Such characteristics of the "interlanguage system" must be "goal-oriented." The learner should be helped by the teachers to correctly apply such hypotheses relating to the target language corresponding to the various stages he progresses through in the process of learning with the aim of reaching a level of mastery of the target language that will satisfy the learner's requirements.

1.2. The importance of errors

Having briefly considered the nature of the learner's language, we shall now focus our attention on the importance of errors in the learner's acquisition of a foreign language.

The definition and categorization of errors have long been a subject of debate. This task becomes difficult because it is not easy to determine what is acceptable or not by a native speaker. There are numerous instances of native speakers failing to agree as to whether an utterance is acceptable or not. Nevertheless, Lyons states that:

> An acceptable utterance is one that has been or might be produced by a native speaker in some appropriate context and

> is or would be accepted by other native speakers as belonging to the language in question.[9]

The degree of acceptability is often hard to decide upon. It seems to be something subjective. Corder (1974:127) classifies the learner's utterances as being "covertly erroneous" that is, "superficially well-formed utterances" but not expressing the learners' real intentions and "overtly erroneous" which refers to "superficially deviant forms" in terms of the target language. He also calls our attention to the difficulty of identifying an error which seems to depend mainly on our interpretation of the learner's meaning.

It is important to recognize that the mere use of acceptable sentences does not necessarily indicate the learner's mastery of the language system because they may only be a repetition of what the learner hears. This does not necessarily indicate what rules are employed by the learner. Seen in this way, Corder (1974:25) emphasizes that errors may reveal these rules and strategies used by the learner in his discovery of the "new" language providing evidence of his language system at a particular stage of his development.

It has been suggested that errors made by second language learners are systematic and that they may reveal the system of the foreign language being acquired. A distinction between "errors" and "mistakes" is then necessary. Some errors are errors of competence, i.e. while "non-competence

[9] In Tran-Thi-Chan, "Error Analysis, Contrastive Analysis and Students' Perception; A Study of Difficulty in Second-Language Learning," *IRAL*, p. 122.

errors" are considered to be "mistakes" (due to memory lapses and are seen as 'lapses of performance'). Mistakes are then unsystematic while errors of competence are systematic once they reveal the learner's knowledge of the target language. Consequently, systematic errors reveal the learner's "transitional competence."

It has been pointed out, however, that the problem does not consist simply of classifying the learner's errors but rather of distinguishing between a mistake and an error.

From the teaching point of view errors may show the learner's progress towards the language being acquired, what else needs to be acquired and what strategies he is employing (though it has been said by Dulay and Burt (1975:25) such strategies are in principle the same as those of mother tongue).

It is worth illustrating some of the currents which attempt to classify the learner's errors while discovering their possible causes.

Some linguists place prime importance on mother tongue interference favouring of course the Contrastive Analysis proposals. Sheen (1980:106), studying French-Canadian students at University level, concluded that 60% of their errors were due to interference from mother tongue. One example of such errors is the utterance "I have 15 years" which is clearly classified as being due to French interference "J'ai 15 ans." In our own teaching experience these same errors are frequent. Brazilian students learning

English use the same English utterance corresponding to "Eu tenho 15 anos."

Cornu[10] may be too dogmatic when he says that "a speaker of a second language never escapes the influence of his mother tongue." Contrary to this view, studies made by Dulay and Burt reveal that the same types of errors being made by both first and second or foreign language learners—the "developmental structures of the first language learners are similar to those of second language learners." This does not seem to support the basic statements which refer to errors being due to interference of the first language (interlingual interference) caused by differences existing between first and second languages. Studying Spanish children learning English, Dulay and Burt (op.cit.) found that the type of interference caused by habits or transfer from the native language into the target language does not appear in these children's acquisition of English. These linguists seem to accept that the process of transfer encountered does not necessarily imply that the 'speech product' is identical for first and second language learners. They seem to believe that Spanish children learning English create different rules than those created by native speaking children. It is expected then that the patterns of the language already existing in the learners' first language could be transferred to the second language in the acquisition process. If such patterns differ from the second language the result is "interlingual interference"; if they are the

[10] In Ronald Sheen, "The Importance of Negative Transfer in the Speech of Near-Bilinguals," *Iral*.

same the result expected is immediate transfer.

On the other hand, Richards' (1974:172-182) study of Japanese, Chinese, French and other speakers learning English encountered various errors not due to interference from their native language but due to what he calls "overgeneralization, ignorance of rule restrictions, incomplete application of rules and false concepts formation." These errors are mainly due to interference of rules, items, etc. within the target language (intralingual interference). They are called "intralingual and developmental errors." "Intralingual" errors are those based on hypotheses formulated by the learner on the basis of what he has observed in the new language and "developmental" errors reveal the learner trying to formulate hypotheses in the target language from his restricted experience.

Overgeneralization, says Richards (op.cit.), accounts for the process in which the learner creates ill-formed structures based on other structures of the target language. Overgeneralization occurs when a rule is applied more than it should be or when there is inadequate application of the rules. An example of this might be the generalizing of the regular past tense 'ed' inflection to irregular verbs (buyed, goed, etc...)—a phenomenon also observed when children learn English as their native language. Such errors may result from analogy with other similar rule restrictions. Similarly, they can be found in "I made him to do it;" the preposition which is used with certain verbs is extended erroneously by analogy. This example also accounts for the second type of errors

presented by Richards referring to deviant structures which are the product of wrong application of grammatical rules. He observes that this is a type of generalization because the learner uses an already acquired rule in a "new" situation.

Richards' third type of error deals with "incomplete application of rules" which shows the deviant structures being a product of the learners' development towards producing the acceptable utterances. According to him this is present in questions: e.g. "Do you read much? Yes, I read much" where the influence of the question is clearly present on the answer.

The fourth type of developmental errors shows that "false hypotheses" derive from the learner's knowledge of the target language. They seem to be another kind of generalization. The learners produce utterances of the type "He is speaks French" and "it was happened" which seem to be due to misinterpretation of tense markers. Richards suggests that such errors are caused by contrastive teaching methods.

All these types of errors reveal some of the strategies employed by the learner in his acquisition process. Thus, what seems to be evident is that mother tongue interference show the areas of difficulty in foreign language learning but "mutual interference of items within the target language" is also responsible for many of the learners' errors (Richards, 1974:182).

Selinker's (1974:36) proposal of "fossilization" augments Richards' efforts to describe the nature of the learner's interlanguage.

To use Selinker's words on "fossilization," we say:

> Fossilizable linguistic phenomena are linguistic items, rules and subsystems which speakers of a particular native language will tend to keep in their interlanguage relative to a particular target language, no matter what the age of the learner or amount of explanation and instruction he receives in the target language.[11]

Such phenomena occur in terms of the following processes briefly described: (a) "language transfer" occurs when certain patterns of the native language are present in the target language of the learner; (b) "transfer of training" when these patterns ("fossilizable items") result from teaching procedures; (c) "strategies of second language learning" refer to the learner's reaction to the linguistic material he is learning; (d) "strategies of second language communication" deal with the learner's approach to communicating with native speakers of the language studied; and finally (e) "overgeneralization of target language linguistic material" occurs when the "fossilizable items" are a product of overgeneralization of the rules of the target language.

These five processes center around both second and foreign language learning and their combination reveals what Selinker calls "fossilized interlanguage competence."

It seems evident that the study of the learner's

[11] L.Selinker, "Interlanguage," *Error Analysis: Perspectives on Second Language Acquisition*, p. 36.

language system, especially errors and strategies should reveal the nature and psychological process of second and foreign language learning.

From our limited experimental study we wish to base our findings upon the theoretical foundations presented here in terms of (i) identifying the possible sources of our students' errors; (ii) classifying the same errors; (iii) accounting to some extent for conflicts that may occur in language learning process in relation to the forms in question.

From the foregoing we find that a great deal of attention in recent years has centered around factors of learning a "new language." This in itself represents a radical change from the more traditional view in which prime interest was on the teaching of the language. Much interest is now centered around factors which motivate pupils to learn. Whatever method is used in teaching its effectiveness will depend to a large extent on the degree of motivation pupils have for learning the target language.

Errors may or may not contribute to increasing the motivation of the students. If the student realizes by his errors that he has formulated wrong hypotheses in the language, hypotheses that have to be changed, and if this results in his successfuly reformulating his hypotheses, his motivation may be increased. On the other hand, if errors are continually repeated and the student fails to understand why he has erred, his motivation to continue to learn the language might well decrease.

In the following chapters we shall attempt to identify the main difficulties pupils have in learning the use of Assertive, Non-Assertive and Negative Forms in English. We shall attempt to pin-point the most important areas of difficulty, utilizing contrastive or error analyses techniques to achieve this, and if possible, conclude with recommendations that will lead to improved learning or teaching techniques that in turn will maintain or improve the students motivation to master the foreign Language.

First however, we shall consider the main characteristics of English SOME/ANY/NO Forms.

Chapter II

Characteristics of Non-Assertive, Assertive and Negative Forms

Apart from Jespersen and Palmer et al, linguists prior to Klima did not generally worry about setting criteria for the study of negation. Klima's *Negation in English* has brought new concepts to this aspect of language structure. From his work, the status of negation rather than being simply considered as opposed to interrogative and affirmative forms is seen as a process in its own right. Since we know that the study of non-assertive (ANY and compounds), assertive (SOME and compounds) and negative forms (NO and compounds) is closely linked to negation factors relating to negation will be considered here, whenever they are necessary to clarify the use of such forms.

1. Assertive and Non-assertive sentences

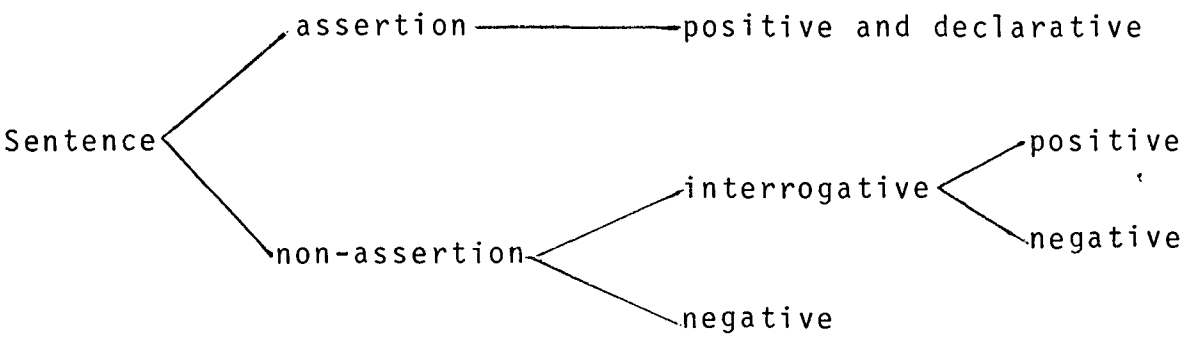
Quirk et al (1972:53) exemplify assertive sentences as those which state an idea very definitely. A sentence such as

She went to school.

is an assertive, while sentence such as

Did she go to the movies?

is non-assertive. Non-assertive sentences can be divided into interrogatives and negatives. The authors consider that the interrogative has a closer relationship to the negative and thus, they form part of the same subsystem--Non-Assertion. They present a diagram which shows this relationship:



This relationship is primarily based on similarities in form. For example, whereas the use of the auxiliary "do" is not obligatory for positive sentences it may be obligatory for non-assertive (interrogative and negative) forms. Similarly, SOME is generally described as appearing in assertive sentences and ANY in others. Quirk et al (1972:54) present the following examples in which SOME appears in an assertive sentence and ANY in the corresponding question and negative:

He offered her <u>some</u> chocolates
Did he offer her <u>any</u> chocolates?
He didn't offer her <u>any</u> chocolates.

It is interesting to observe that SOME may also occur in negative, interrogative and negative-interrogative

sentences and also ANY may appear in affirmative ones. But the information focus differs:

He did NOT offer her some chocolates.

Has somebody phone?

Anyone can do this for me.

These types of sentences will be treated in detail later.

Quirk et al call our attention to 'technical use' of the term 'assertion':--in ordinary speech, negative sentences can be seen as assertions:

'I did not steal it' was his constant assertion.

2. Assertive, Non-Assertive and Negative Forms

Quirk et al (1972:219) classify assertive, non-assertive and negative words as:

Assertives: much, many, more, most...
little, less, least, few, fewer, fewest,
several, enough
one
Some group: somebody, someone, something

Non-Assertives: Any group: anybody, anyone, anything
either

Negatives: No group: nobody, none, no one, nothing
neither

Our main concern here will be the SOME-group, ANY-group and No-group. The other assertive words will only be considered in this work, if they help to explain the use of the SOME, ANY and NO groups.

Quirk et al (ibid:223) consider that a sentence containing one assertive form may have two corresponding negatives. We have,

We have had some lunch.
We haven't had any lunch.
We have had no lunch.

From these examples, we observe that:

(a) ANY occurs in non-assertive sentences, but it may not be present in the corresponding assertives.

Klima's sentences illustrate this characteristic:

a) There wasn't any snow falling anywhere else.
b) ?There wasn't any snow falling somewhere else.
c) * There was any snow falling anywhere else.
d) Not even then did any snow fall anywhere else.
e) * Even then any snow fell anywhere else.

An analysis of the above sentences (especially b, c,

d) suggests that a constituent containing NOT ANY seems to contradict the constituent SOME, the result being a semantically awkward sentence.

(b) ANY being non-assertive occurs in sentences showing a negative form NOT or any other negative form:

a) I have not travelled anywhere yet.
b) Not many of the refugees have anything yet.

Each of the above sentences have several non-assertive forms, however, they are determined by the presence of "NOT" in the sentences.

c) The presence of two negatives in the same sentence only applies to "special cases" in which one negative eliminates the other causing the result to be positive.[12] That is,

— *"I can't not obey you"

which corresponds to the paraphrases:

— "I have to obey you".

[12] This special negation will not be treated here. Nor will negation such as "No one never said nothing" which is typical of Non-Standard English.

3. ANY versus SOME

Like Quirk et al, Zandvoort (1972:169) considers that ANY frequently appears in negative, interrogative and conditional contexts. He also states that ANY is "negative or non-committal" while SOME is "positive" in meaning although it is indefinite. Zandvoort gives no clear indication however, of rules that determine the use of SOME or ANY.

Quirk et al (1972:223) affirm that though negative, interrogative and conditional clauses are "superficial" markers of non-assertion, they do not establish the SOME-ANY use. Quirk et al seem to go further than Zandvoort when they state that the SOME-ANY choice is conditioned by the "deep basic meaning of the whole sentence. For example,

> *Freud probably contributed more than anyone to the understanding of dreams.*

The authors go on to explain that the basic meaning of the above example is negative and non-assertive and they say that this can be seen in the paraphrase, which might be considered to be the "deep" meaning of the sentence,

> *Nobody contributed more to the understanding of dreams than Freud.*

where "than ANYONE" is replaced by "NOBODY" in the converse sentence.

Obviously however, there are some divergences among

authors concerning SOME-ANY choice. Some of them assume that it belongs to syntax while others affirm it belongs to the lexicon.

We would be inclined to accept the second argument since we may have sentences in which the presence of SOME-ANY is not determined by a negative or a question. For example,

(a) Didn't you publish some poetry back in 1916?

which gives the idea of

(b) Isn't it true that you published some poetry back in 1916?

and

(c) Didn't you publish any poetry back in 1916?

seems to signify

(d) Is it true that you didn't publish any poetry back in 1916?

The use of SOME in (a) and (b) above has positive connotations implying that the speaker thinks the writer did publish whereas in (c) and (d) "ANY" has negative connotations suggesting unexpected absence while SOME seems to mark unexpected presence.

Obviously then, to consider that SOME is restricted to positive structures and ANY to negative structures is to

over-simplify the actual occurrence of these forms.

There are however certain environments in which the SOME-ANY choice appears to depend on syntactic factors within the sentence, the choice of one or the other being obligatory and not optional. For example,

negative: *John has not <u>any</u> money*

**John has not <u>some</u> money*

It is important to note however that SOME-ANY restrictions on the basis of structure are comparatively rare in English. The great majority of structures (negative, interrogative, conditional, comparative) offer an option between SOME and ANY (and their compounds), the choice being made on semantic grounds rather than syntactic.

Lakoff (1969:609) also explains the use of SOME and ANY as not only depending on "superficial syntactic factors" (negatives, questions, and so on) but also on presuppositions which do not have links with syntax.

Such principles are observed when comparing some of his examples:

If you eat some spinach, I'll give you ten dollars.

If you eat any spinach, I'll give you ten dollars.

The difference between these two sentences lies of course, in the presence of SOME and ANY. The first sentence

involves a positive connotation on the speaker's part suggesting likelihood or normality while the second sentence indicates perhaps the reverse (neutral or negative feeling on the part of the speaker). The SOME-sentence indicates a promise while the ANY-sentence is a "threat to prevent an undesired action" even though it would be much more common of course for the "threat" to involve something negative (or unpleasant),

If you eat <u>any</u> spinach I'll hit you.

In terms of presupposition when SOME is used the presupposition is said to be positive while ANY involves a negative or neutral presupposition.

3.1. Positive and Negative Orientation[13]

Positive and negative orientation occurs particularly in questions. A question may be said to have "neutral polarity" if it leaves open the possibility of a positive or negative answer. Thus, if a question is presented in a way to lead to a positive answer it is said to have positive orientation. According to Quirk et al (1972:389) the use of assertive forms in such questions helps to indicate the positive orientation. Examples are,

[13] This phenomenon also applies to the sentences a, b, c, d in 3.

Did someone call last night? (=Is it true that someone called last night?)

Do you live somewhere near Dover? (I have a feeling you do)

The above questions show that the speaker believes the answer is yes: he just asks for confirmation.

The same phenomenon may happen in a question containing a negative form of any kind. Non-assertive words are supposed to be encountered in such questions. Then a neutral or negative answer is expected indicating the negative orientation of the question. (Quirk et al, 1972:389). Examples are,

Does no one believe me?

Hasn't anybody phoned?

We conclude that assertive forms present in a question (negative or not) provide it with positive orientation and non-assertive forms appearing in negative or yes-no questions indicate that the question has negative orientation providing a neutral or negative answer.

Another type of negative question involves the notion of assertive or non-assertive forms together with NOT. For instance:

Didn't someone call last night?

Didn't anyone call last night?

Should the speaker use the "positive-oriented" SOMEONE he would probably expect an affirmative answer of "who called last night." Should he choose the "ANYBODY" option he would probably either a) expect a negative answer (i.e. nobody called) or b) would have had no kind of expectation as to whether or not "anyone called" and would have no other information. In the latter case the answer could be positive (yes , somebody called) or negative (no, nobody called).

From the foregoing we see that whereas SOME and its compounds (SOMEONE, SOMETHING, etc) involve some restrictions in that the answer would normally be positive rather than negative, ANY and its compounds (ANYONE, ANYTHING, etc) can be more open and involve either a positive or negative reply. We also conclude that such phenomena seem to support Quirk et al's statement that the "deep basic meaning" conditions the SOME-ANY choice.

3.2. ANY in Affirmations

Bolinger (1975:24) also believes that ANY does not only occur in the presence of a negative or an interrogative, but contextual conditions may determine the SOME-ANY use creating sentences that may be acceptable or not. He outlines structures that seem to favour the occurrence of ANY in affirmative sentences where syntactic factors also contribute to this.

i) When ANY is used in initial -ING clauses, it denotes "tentativeness or doubt." For instance:

Having to hurt anyone is contrary to his nature.
(different from: *Having to hurt someone actually pleases him*).

In the ANY-sentence there is the possibility that a person may or may not do such an act, while in the other sentence it seems to be a common characteristic of that person. Presumably these ideas are shown through the use of "contrary" and "please" in the first and second sentence respectively.

ii) ANY may be present in affirmative contexts (often with stress) having the special meaning of "no matter what", "no matter who". Such as

Go anywhere you like.
It kills any insects that may be around.

Zandvoort (1972:169-70) also gives examples of this:

Any chemist will tell you it's poison.
He may come any moment.

iii) ANY may also be used in affirmations whenever implied negative words create the context for it. That is,

It's been a week since I bought any (=I haven't bought any for a week).
He has more than anybody else (=Nobody has more than

he has).

We avoid any such complications.

They are afraid to go anywhere.

Such sentences though apparently affirmative involve negative connotations.

iv) Bolinger (op.cit.) makes an interesting contrast with affirmative sentences in which negation is implied and the same sentences with the addition of formal negative and changing ANY to SOME:

He refuses any ———— He doesn't refuse some
He lacks any ———— He doesn't lack some
I'm against anything like that ———— I'm not against something like that,

from which we observe that the formal negative (NOT) lessens the negative meaning of such verbs causing them to behave like affirmative ones. However,they still collocate with ANY as well, and their affirmative forms collocate with SOME in appropriate contexts.

3.3. SOME and ANY in Negations and Questions

It is generally accepted that basically, SOME is used in affirmative sentences while ANY in the corresponding negative or questions. At first sight this may be true but semantic criteria condition their use in a wide range of

occurrences (see 3.1.).

Given below are Bolinger's (1975:29) examples of questions or better, requests, considered "invitation to a positive action" which require the assertive forms to complete their meaning. Bolinger's examples indicate the acceptability of SOME and at the same time the unacceptability or at least the improbability of ANY:

> Good morning, will you have some breakfast?
> Will you please give me some sugar for my cereal?
> May I leave something for somebody who is coming by at four o'clock to pick it up?

Such requests present a positive supposition that the thing asked will be done, probably expecting, though not demanding a positive answer. The same is true of:

> *Did you know that something happened last night?*

SOME may appear in negative sentences when the negation "affects the action as whole." That is, the assertive forms fall outside the scope of negation. Examples are,

> *I was embarrassed because I didn't know <u>some</u> important people who were there.*
> *- Why is yourmother mad at you?*
> *- Because we didn't eat <u>something</u> (that she told us to eat)*, meaning *"we neglected to eat something."*

Another occurrence of SOME (and compounds) is in questions and conditions taking either positive or negative presuppositions (see positive and negative orientation), that is, either SOME or ANY is possible:

(a) Why hasn't John done something to stop the noise?
(b) John never does something until you ask him to do.

According to Lakoff (1969:613) neither of these sentences is a typical case of negation. In the first sentence, the speaker assumes that "John ought to have done something to stop the noise." That is to say, the speaker hopes for, but not necessarily expects a positive attitude. While in,

(c) Why hasn't John done anything to stop the noise?

the speaker has a neutral or negative attitude to the situation (in this case, "the noise"). ANY implies the "expectation of a negative answer or a neutral feeling is present on the speaker's part. So, an anticipated answer to this question might have negative connotations such as:

"He hasn't done anything because he is too busy,"

or, positive connotations, as in:

"He is trying his best to do something about it."

Sentence (b) seems to be impossible without an "added clause" mentioning the action; the first clause must refer to the same action that the clause containing SOME describes.

Although NEVER is present in the first clause, the until-clause describes the action in positive terms and the presupposition is positive too.

Upon analysis, again, the contrast in meaning in SOME/ANY question forms is evidenced in Lakoff's (1969:609) examples:

Who wants some beans?
Who wants any beans?

The first question involves a positive feeling on the speaker's part about the action described and the second has a neutral or negative attitude, that is, a negative answer is expected. Quirk et al (op. cit.) agree with Lakoff when they affirm that a question may have positive orientation if assertive forms are present in it. Naturally, for a question to have negative orientation a negative form of any kind may be present,

Do you suppose any of the class will ask any boring questions?

though some authors believe that ANY in questions like that is the "suppletive variant of SOME". If this is so ANY might still lead to a positive or negative answer the latter being much more evident. This question shows a negative feeling present in the speaker's mind and consequently he expects a negative answer.

It is interesting to analyse at this stage another use

of ANY. We already know that questions can be positive and negative as in:

Did he offer her any chocolates?
Didn't he offer her any chocolates?

but "they do not contrast identically to positive and negative statements". The first interrogative is neutral as to the answer expected: Yes or No with equal probability; it neutralizes the positive,

He offered her some chocolates

in being non-assertive as opposed to assertive. On the other hand, the second interrogative neutralizes the negative but the question shows the speaker's surprise while the context implies that the answer is NO (Quirk et al, 1972:223).

3.4. Inherent negatives and ANY

Quirk et al (ibid:223) state that the negative context which characterizes non-assertion may consist of words considered "inherent negatives" as they present negative characters in themselves. They follow:

a) negatives: never, no, neither, nor;
b) incomplete negatives: hardly, nearly, almost, little, few, least, but only, seldom;
c) implied negatives: just, before, fail, prevent,

hard, reluctant, difficult and comparisons with too.

The words in (a) and (b) are considered negative in meaning, but not in appearance since they occur in the same syntactic functions where the negatives occur. For instance, when they appear before subject-position, they normally cause subject-verb inversion as in,

Rarely does crime pay so well as Mr.Been seems to think;

they are generally followed by positive tag-questions such as,

She scarcely seems to care, does she?

where such behavior consequently leads to the occurrence of ANY. For example,

She was scarcely eating anything.
I seldom get any sleep.

Klima (1964:273) suggests that the non-assertive forms (ANY and compounds) are not restricted to any one constituent in the sentence. But the presence of NOT or another negative word before them seems to be obligatory in initial position. So we have,

* *Anybody scarcely hit anyone*
Scarcely anybody hit anyone.

Bolinger (op.cit.:22) cites Labov's rule about the

use of ANY: "Whenever an unstressed indeterminate ANY, without a negative feature of its own, is not commanded by a negative or non-factive feature, it may not be followed by a negative." For example,

**Anybody can't eat there*

but

Just anybody can't eat there.

Bolinger finds this rule too categorical since he shows exceptions to it. Such as,

Anybody shouldn't want to, I would think
Anybody could hardly be blamed for doing that!

He attributes such use of ANY to various factors as the modal verbs which are present in the sentences and also to the tentativeness of the tag, although such examples do not seem too common.

We can find other environments in which ANY may occur that favour Labov's rule. Conditional clauses, for instance, indicate uncertainty and accept the use of ANY. The same is true of indefinites and embeddings:

If anyone can't go...
Anyone can't go who drinks.
For anyone not to go was a shame.

Bolinger (op.cit.:26) believes that SOME and ANY do

not have affirmation and negation built into their meaning. But the presence of ANY or SOME in a sentence may be determined by certain expressions which carry the markers of non-assertion: — negative, interrogative or conditional sentences. Even here it is the basic meaning of the whole sentence which finally conditions the ANY-SOME use.

In Quirk et al (ibid) we have examples such as the following which show the contrast between assertive and non-assertive sentences:

John will always manage to do something useful.
John will never manage to do anything useful.
There was a good chance somebody would come.
There was little chance anybody would come.
John was eager to read something about the war.
John was reluctant to read anything about the war.

The presence of ANY and SOME in these sentences seems to be related to negative words or words having negative connotation. It seems possible to say "John was reluctant to read something about the war" although it is not so common. Once "something" is used it makes the sentence semantically awkward because the affirmative idea of SOME is confronted with the negative connotation of "reluctant" in the same sentence.

Klima (1964:309-315) explains the use of such expressions in terms of "an affective feature," that is, a given word will contain the lexical feature + negative or

-negative creating a negative or an affirmative environment appropriate for the use of ANY or SOME. But a "given negation" may only change SOME to ANY if it is understood as being within its logical scope.

The same characteristic described above may also be present in:

a) Verbs: I deny that he offered her any chocolates.
I forgot to ask for any change.
He refused any changes.
I defy you to prove anything.

b) Adjectives: He was afraid to say anything so he kept quiet.
... it is very difficult to conceive of anything really destructive.

c) Prepositions: Against any changes.
Without any delay.

d) Negative Affixes: He will be able to find some time for that.
He won't be able to find any time for that.
He is unable to find any time for that.

4. Scope of Negation and Non-Assertive Forms

Quirk et al (1972:381) affirm that in a "stretch of language" where the negative word is present "the scope of negation normally extends from the negative word itself to the end of the clause, or to the beginning of a final adjunct." If we compare the following examples,

I definitely didn't speak to him (It's definite that I did not).
I didn't definitely speak to him (It's not definite that I did).

we can perceive that the adverbs may occur within or outside the scope of negation and also the subject or any other adjunts appearing before the verb are considered outside the scope of the negative. But, it is not only the scope that counts, the focus of negation is also important. A special or contrastive stress falling on a particular part of the sentence indicates that negation is located at that point and the rest of the sentence may be understood in the positive sense:

Hărry didn't attack the Labour Gŏvernment.
(Someone did ... but not Harry).
Harry didn't attăck the Labour Gŏvernment.
(He did something to the Labour Government but he didn't attack it).

Klima (1964:285), referring to scope of negation and non-assertive forms, concludes that the scope can sometimes extend to a subordinate clause as in,

He didn't know that anything had happened,

where "Anything" lies inside the scope of negation. While in

I didn't listen to some of the speakers.
I didn't listen to any of the speakers,

the first sentence presents the assertive form outside the scope of negation; the second one shows "Any" within the scope.

At first sight, these authors demonstrate the basic idea of "scope of negation", although many other factors lead to a more detailed discussion. Originally, in a negative sentence, non-assertive forms can be used in place of every assertive one, as in:

I've never travelled anywhere by air yet.

Quirk et al (1972:383) observe that when the negative word NOT has the focus, the scope may be restricted to it if the sentence is a denial:

I did NOT offer her some chocolates.
*(*It is not true that I offered her some chocolates).*

Bolinger (1975:44) also explains such types of negative sentences using his own criteria called "external negation" (that is, the negation is far from the verb), where the

speaker denies something that has supposedly been affirmed and generally SOME and a special intonation may be present. Thus we have,

— *You ate some mushrooms.*

— *I did not 'eat some mushrooms'.*

"I didn't know some important people who were there," where SOME falls outside the scope of negation.

It is also affirmed that non-assertive forms may also occur in "apparently" positive subordinate clauses (contrary to the above examples) having a negative word such as NOBODY, NO ONE, etc. in the main clause causing ANY to be inside its scope:

Nobody has promised that any of you will be released yet.

4.1. Scope of Negation and Negative Transfer

From Klima's work we notice that examples such as,

Paul didn't know that anybody had come

and

Paul knew that nobody had come,

may not be considered identical from the point of view of their scope. Klima proves such observation using one of his criteria-

NEITHER-TAG:

Paul didn't know that anybody had come, neither did I,

this one might say, is a typical case of negation. In

**Paul knew that nobody had come, neither did I,*

we perceive that the negation is transferred from the verb itself and is present in NOBODY (in the second clause). As NEITHER relates to a negative verb, the application of NEITHER-TAGS in sentences where the main verb is positive will normally be unacceptable. In terms of meaning, these sentences may express the same idea whether NEG (=negation) appears in the main or subordinate clause. If NEG is present in the main clause the extension of its scope goes up to the end of the sentence and for that reason ANY is used while NOBODY restricts its scope to the subordinate clause.

This process is known as 'negative transfer' among many other denominations, and we choose this term because it leaves out the possibility of the influence of transformational grammar theory which is not our intention here. It seems to us that the authors who treat the subject agree that negative transfer occurs when NEG disappears from the main clause and appears in the subordinate one when the main clause contains words such as "think", "know", "believe", "suppose", "imagine". In this way, non-assertive forms may be used since NEG-element is associated to them, even though NEG is in a different clause:

I don't suppose that anybody will come.

Another factor that provides the environment for the

use of ANY + NO compounds is the use of negative affixes and negative transfer may also occur with them. It seems that this characteristic may only be possible if the negative affixes are present in that-clauses, infinitive and participial phrases having the same consequences in relation to the scope as if NOT, NEVER, etc., were used; though we could not consider its result as being sentence negation, it seems clear their negative meaning transference to the second clause. Thus, we have:

He will be able to find some time for that.
He won't be able to find any time for that.
He is unable to find any time for that.

It is possible for him to do more.
It isn't possible for him to do any more.
It is impossible for him to do any more.

It is likely that he will do more.
It isn't likely that he will do any more.
It is unlikely that he will do any more.

He liked doing more than necessary.
He didn't like doing any more than necessary.
He disliked doing any more than necessary.

Klima's (1964:29) observation refers to the affixes having the same effect as NOT, but "their scope is restricted to the sentence-like complements subordinated to the constituents containing the affixes".

4.2. Meaning differences of NOT ... ANY and NO

Bolinger (1975:37) referring to sentences such as

I want not to suffer.
I don't want to suffer,

finds difference in meaning between these two. In the first sentence, the speaker must have a positive desire "not to suffer" (the negative belongs to the lower verb) while in the second sentence the negative relates to the verb "want" giving the impression that the speaker "wouldn't mind suffering--he just doesn't go out of his way to want it". Bolinger calls this phenomenon negative leftshifting or rightshifting which may also be found in affirmation:

I believe he really did make that mistake.
I really do believe he made that mistake.

We should notice that Bolinger's terms also refer to the phenomenon of "transfer" we have been discussing. It is also worth observing that the use of non-assertive forms seems to have an important role in this process. Bolinger distinguishes SOME from ANY in saying that SOME implies an external negation: — negation belongs to the verb itself. That is, the speaker denies something that has supposedly been affirmed and intonation helps to indicate that the thing denied is quoted. Then, we have:

— *You ate some mushrooms.*

—*I did not eat 'some mushrooms'.*

where the negation is concentrated on the verb.

Bolinger's (1975:38) ideas were first presented by Labov in his article on Negative attraction and Negative concord.[13] Thus, we should say that "rightshifting" may be seen in

I want you to see no one.

These sentences may have the same meaning, but they are restricted to verbs that are negative-raising verbs, that is, they allow the use of ANY or NO carrying the negative meaning to the constituent where their scope reaches. A syntactic contrast is present on the use of NOT ... ANY and NO, that is, negating the verb versus negating the alternatives.

From this, we understand that for a negative to negate a whole proposition it cannot be rightshifted too far.

Bolinger (op.cit.) finds differences in the use of NOT ... ANY and NO and he explains such differences in terms of presupposition. He concludes that using NOT ... ANY there is the negation "of a set of open possibilities." That is to say, the "use of ANY with negation is not, basically, a matter of negative concord but of logical necessity of negating a collectivity item by item in order to achieve an unambiguous

[13] In *Language*, vol. 48.

total negation" (p. 56); 'ANY looks at all the possibilities and is not "inherently negative." The following example conveys a kind of affirmative and SOME or ANY would make little difference:

I'm bored with this place. — Aren't there any books you can read? I can think of lots of things to do!

We should also observe these other examples "where the speaker is about to leave on a trip and is talking to himself":

I hope I haven't forgotten anything — let's see, there's the key, and the food for the cat, and...

**I hope I have forgotten nothing — let's see, there's the...*

In the first sentence, we see the possibilities of the speaker having forgotten "something" or "anything" are all open and the speaker is trying to negate each alternative while in the second sentence NOTHING "forecloses all the possibilities." If there was a "presupposing situation" where a question had been made by a person sure of the thing asked, the second sentence would be seen as normal. Thus, Bolinger concludes that NO is the affirmation of a foreclosed negation.

It seems that the process of "rightshifting" which is clearly associated to external negation, represents the "extreme of givenness" while "leftshifting" the negation seems to be internal, that is, it is more related to the verb itself with certain effects on its constituents.

Examining NO sentences, we note that it is used in "logically affirmative sentences" and just some detail of it can be negated. Such detail may extend from the entire complement as in

They were (busy) eating nothing;

or to some part such as

He took a bath with no soap,

where we see that the action (verb) took place and NO is considered as being out of the verb which seems the cause for the term "external negation."

Bolinger (1975:64) goes on to describe rightshifting also in "formulaic negation," that is, the use of the indefinites NOTHING, NOWHERE, NOBODY, NOTHING OF THE SORT, NO SUCH THING, and expressions of ridicule. For instance:

I'll play chess or nothing!
**I'll play chess or no game.*

He knew I had nothing! He had no way of knowing!
**He knew I had no mumps!*

We should remark here that Quirk et all (1972:276) do not seem to make this distinction in the way Bolinger does, once they demonstrate that a sentence such as

We've had some lunch

may have two negative equivalents of it:

We haven't had any lunch

We have had no lunch.

We observe that the scope of negation varies: in the first sentence it extends up to the end of it, and in the second it seems to be syntactically restricted to the last constituent, though the semantic proposition of negation is present on the whole sentence.

Another instance of the negative constraint of forms such as "NOBODY," "NOTHING," etc. may be seen in the following sentence:

Nobody has promised that any of you will be released yet.

Thus, we note that NOBODY has a strong negative effect which carries to the whole sentence making possible the use of ANY in the second clause, showing that negation was transported from the first to the second clause.

Though these authors treat the subject in their own special way, they seem to have the same idea. That is, the use of NOT...ANY affects the verb itself and NO is related to the constituent. But we feel that the presence of both turns the sentence to be negative and as Bolinger (1975:57) suggests they may be better revealed intonationally where NOT...ANY follows a terminal rising intonation and NO a falling one:

I hope I have n't for got ten any th^{ing}

You've for gotten noth$_{ing}$

It is also worth mentioning, we feel, that the authors discussed here seem to agree that SOME and compounds are essentially positive in meaning and ANY and compounds are not considered to be negative in meaning though they are always associated with negation. The reason for this lies in the distributive sense of ANY. Bolinger cites Jespersen (1973,17: 9.I.) to support this:

> ANY indicates one or more, no matter which; therefore ANY is very frequent in sentences implying negation or doubt (question, condition).[14]

Having considered the theoretical aspects governing the use of SOME/ANY/NO forms, we shall appreciate their practical value in the testing of our students' comprehension and use of these forms.

[14] In Dwight Bolinger, *Meaning and Form*, p. 34.

Chapter III

ANALYSIS OF STUDENT RESPONSES IN THE COMPREHENSION AND USE OF SOME/ANY/NO FORMS AND THEIR COMPOUNDS

3.1. Experimental Procedures

The following reports our attempt to analyse the level of mastery among a group of English language students at Paraiba Federal University of the Assertive, Non-Assertive and Negative forms (SOME/ANY/NO and their compounds).

It must be pointed out however, that while this represents an honest attempt to reveal aspects of the teaching and learning of these forms, the practical limitations of this enquiry require that any conclusions we have reached cannot be considered to be universally valid unless supported at a later date by a far more comprehensive and systematic investigation and analysis. We nevertheless feel, however, that the results of our study, limited though it has been will, with these limitations, be revealing and of use to English language teachers in Brazil.

It must also be clarified that this pilot-study does not intend to obtain definitive results. Rather it aims at testing the value of our research procedures in discovering

the learners' strategies when using the forms under observation and, if possible, to support the theoretical formulations previously presented.

3.1.1. The Informants

Forty informants were selected from among 3rd and 4th year students of English at Paraiba Federal University. All students had the following in common: they were aged between 18 and 23, had studied English for 4 years in secondary schools before entering the university and all intended to major in English and follow the University course (Letters) to take up career as teachers of English. The group consisted of 30 women and 10 men. All took the test at the same time and under the same conditions. The students also presented a considerable homogeneity in cultural background and experience in foreign language learning.

3.1.2. The Test

The test primarily aimed at testing the comprehension and use of SOME/ANY/NO forms (and compounds) by students. A total of 50 sentences were given for completion by the forms in discussion. These sentences in turn focused on 6 basic rules (two of them have been subdivided for the purpose of

correction forming 10 rules) mainly encountered in Quirk et al (1973), Klima (1964) and Bolinger (1977). For each rule, we had a medium of 5 test sentences. Students were not however, informed of these rules but were required to complete the sentences with the most appropriate form, for the proposed context. In some cases, more than one form would be acceptable. In such instances the students were asked to: (a) indicate the possible alternatives; (b) indicate what they consider to be the most probable order of occurrence.

On the whole, the aim of the test was to find out: (a) to what degree students could comprehend the distinctions in SOME/ANY/NO forms (and compounds) and use these forms; (b) if the students were aware of the words which have negative connotations and for this reason the sentences which present them in the test allow the ANY group to occur more than other form; (c) the degree of comprehension of the distinction between syntactic and semantic negatives; (d) to what extent Portuguese interference is responsible for the misuse of the forms already cited.

It is worth mentioning that the test was given to students in a one and a half hour class.

For the correction of our informants' responses, the following criteria were adopted: (a) where only one form was possible the choice of any other form was considered erroneous; (b) where more than one alternative was grammatically and semantically acceptable in Standard English a completely correct answer would identify (i) all the possible alternatives,

(ii) which of these forms would be most probable to occur in everyday speech; (c) the inversion of such occurrence and the absence of one of the correct forms reveal an incomplete, though acceptable, answer.

In an attempt to obtain more precise results in our investigation the data were processed by the IBM/370 computer for correction of the tests and statistical results. The method used was the FORTRAN IV (Formula Translation) and the program was processed by the computer of Paraiba Federal University.

Though criticisms may be made of our procedures it is fair to remember that (a) time may have been insufficient to give an overall view of the errors characterizing our informants' language; (b) though small, the number of informants almost reached the total number of students from the 3rd and 4th years of the course; (c) and finally the pilot characteristic of our study should be taken into account.

3.2. Analysis of Student Errors

In this chapter, we wish to describe our analysis of the students' errors concerning the use and comprehension of the SOME/ANY/NO forms and their compounds. We hope that the results of such analysis will contribute towards a linguistic classification of the data gathered from the students, bearing in mind that "a psychological explanation, that is, a reliable

account of the causes of errors"[15] would be significant to our study once "errors reveal the underlying knowledge of the students' language."[16]

It is well-known that neither Error Analysis nor Contrastive Analysis alone provide definite conclusions relating to difficulties encountered in second-language learning. A study which focuses on the learner's performance should present not only the description of error but also a linguistic and psychological explanation of the errors made by those learners in relation to the language learning process.

During our observation it was evident that different groups of our student-informants revealed some hesitation when using SOME/ANY/NO forms and compounds. This led us to discover the great confusion they seemed to have.

One of the difficulties we had, was to decide what would constitute a "deviant sentence" because, as we have learned (chapter II), the use of these forms seems to be more closely related to meaning than to their syntactic function. In this way, we have noticed that sentences such as "Didn't you pick up some king of bug in Mexico?" at first sight would deviate from the syntactic norm. However, when we consider its meaning it is evident that it is perfectly acceptable since it may correspond

[15] Gerry Abbott, "Towards a More Rigorous Analysis of Foreign Language Errors," *Iral*, p. 124.

[16] Mohsen Ghadessy, "Implications of Error Analysis for Second/Foreign Language Acquisition," *Iral*, p. 96.

to the tag "you picked us some kind of bug in Mexico, didn't you?" where the speaker has a positive feeling towards an affirmative answer. As the use of such forms is in some way subjective, we decided to score the subjects' responses as follows: (a) a sentence was considered correct when the student's response performed the instructions given and was identical with the "target" sentence - the "target" sentence may have more than one form in which case more than one answer would be considered correct. We identified such sentences as "C"; (b) a partially correct answer would be considered (i) that in which the alternatives given by the student do not conform with the most probable order of occurrence. For example, a sentence may require the use of SOME or ANY, SOME being the most probable to occur but the student changing the order to ANY before SOME. This type we called CI, that is, correct but inverted; (ii) where two or more alternatives were possible and the students' responses contained only one, we considered the sentence partially correct, that is, PC; (iii) where two or three alternatives were possible and the students' responses presented only the second or third possible alternative while omitting the most probable, we regard them to be partially correct but incomplete. This type was identified as PCI. This division has been done for the purpose of computer scoring. After scoring, the CI, PC and PCI (Table I) having in common the fact they were each in some measure acceptable in English, they were grouped under the heading "acceptable" meaning that only part of the task had been performed by the student though we use the term "partially correct" to refer to these responses; (c) finally, the sentence responses which deviate from the target sentence were considered erroneous (E):a blank was also counted as an error.It is

worth mentioning that these types of student answers were considered relevant since the structures tested may reveal the learner's language in respect to the item chosen at this point of his learning process.

To summarize, some of the test questions presented two or more acceptable alternatives. In the majority of cases one of these alternatives could be considered to have a higher probability of occurrence than the other. However, in other instances and perhaps especially with regard to interrogative and negative sentences with SOME/ANY alternative, we feel that neither could be considered to have more probability than the other, the choice depending on the attitude of the speaker.

3.2.1. Results

The statistical analysis presented here is based on a total of 2000 responses. The first task to be done was the scoring of the students' answers per rule which could reach 200 responses. This result was then organized in Table I containing the discrimination of C, CI, PC, PCI answers.[17]

To facilitate our procedure, we decided to take into consideration for the purpose of our analysis the total results which were arranged by rules in Table II.

[17] This can be found in Appendix II.(p.189)

Table II

PERCENTAGE PER RULE

	PERCENTAGE		
	Correct	Partially Correct	Wrong
Rule 1	0.36	0.36	0.27
Rule 2	0.15	0.27	0.57
Rule 3	0.25	0.13	0.61
Rule 4	0.13	0.51	0.36
Rule 5	0.35	0.00	0.64
Rule 6	0.58	0.00	0.42
Rule 7	0.26	0.25	0.48
Rule 8	0.25	0.00	0.74
Rule 9	0.35	0.00	0.64
Rule 10	0.28	0.28	0.43
Total	0.30	0.18	0.52

[18] The percentages above represent whole numbers (approximate) - fractions not being taken into account.

According to Table II, rules 8, 9, 5 and 3 seem to be the most complicated for our students in that they present high percentage of incorrect responses, that is, 74%; 64%, 64% and 61% respectively. Following these rules, we have rule 2 with 57%; rules 7 with 48%; rule 10 with 43%; rule 6 with 42% and the rest reached percentage lower than these.

Another significant fact concerns 36% and 51% of the answers of rules 1 and 4 respectively being partially correct. It seems that a great hesitation to choose all the possible forms was obviously present in the students' responses. We should exclude here sentences 1 and 3 from rule 1 and sentence 20 from rule 4 which presented only one possible alternative and thus could not be considered to have partially correct responses. For example, "Most people have at least some relations they enjoy meeting," where only SOME applies. These percentage may demonstrate some knowledge of the rule but not full mastery.

The overall percentages show the following: (a) an average of one in two students produced an unacceptable answer to each question; (b) of the remainder approximately 40% of the students produced partially correct sentences. Some of these sentences could sound strange to the native speaker; (c) 60% of the answers produced were correct. In other words, from the total results the average possibility of producing correct forms for these ten rules was 30% and 18% of partially correct answers.

In the following diagram, we can see the

representation of our results more clearly:

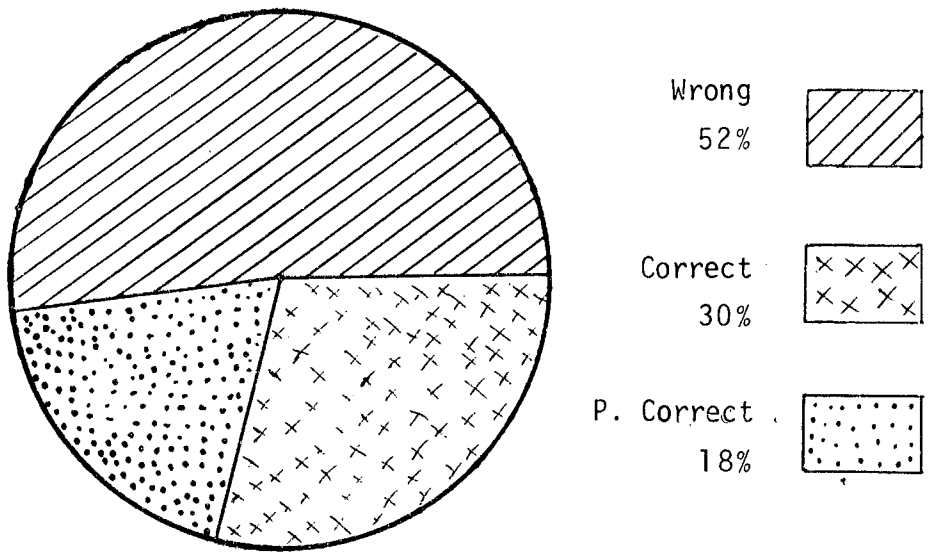


Figure 1. Diagram representing the overall percentage.

3.2.2. Analysis of Students Errors for Each Rule

It is interesting at this point to make an evaluation of the sentences produced by our student-informants. The following gives a general view of our impression of the types of sentences encountered while attempting to observe the general characteristics of "rule learning."

In the following analysis, we shall present the grammatical restrictions which guide our research. These restrictions have been summarized from Quirk et al; Klima and

Bolinger as already presented in Chapter II. We have called these restrictions "rules" to facilitate our procedure especially with the computer job.

Rule 1 refers to the common use of SOME and its compounds in affirmative sentences. We had here a great problem as to the production of the test sentences: in many sentences where SOME and its compounds were possible, ANY and its compounds could also be applied. This "lack of precision" was present in almost the entire test and could not be otherwise because the English language offers the possibilities of using either form depending upon factors such as context or attitude of the speaker. This was our primary interest: students being asked to reveal their knowledge of these forms in a wide range of contexts.

The test sentences for this rule were:

(1) Most people have at least _____ relations they enjoy meeting.
(2) Say ____ about two of the main traffic problems of your country.
(3) ___ Brazilian writers are well-known.
(4) I've seen this man _____. I'm sure of it.
(5) I heard that _____ has broken the padlock.

Our main preoccupation here, was to find out which forms were more evident to the students. We believed that SOME (or compounds) would be the most frequent since they have been taught that SOME is used in affirmative sentences early in their language learning course. Their answers given from a set of

possibilities would reveal the confusion present in their minds when asked to use these forms.

It is interesting to observe that 36% of the students, produced partially correct responses, while 36% favoured the sentences that would be considered correct according to our test instructions, that is, students were asked to produce sentences having all the possible alternatives. The number of partially correct sentences (36%) was due to a variety of answers in which students produced at least one possible acceptable form. This percentage does not include sentence (1) and (3) where only SOME applies.

We expected that the use of SOME (and its compounds) would not present much difficulty. In some sentences such as "Say something/anything about two of the main traffic problems of your country," the students failed to observe the use of "anything" meaning "no matter what" which may also have been used in that sentence. Considering the total percentage of responses, that is, the fully correct responses and the partially correct ones, we have 72% of the students who gave perfectly acceptable answers in English against 27% of students with incorrect responses. Taking into consideration only 36% of partially correct responses, we have observed that the students did not encounter the use of ANY (or compounds) in affirmative sentences to be very common since most of their sentences presented only SOME (or compounds) as the possible alternatives to sentences 2, 4, and 5.

Rule 2 may be considered a variation of rule 6 in that

it refers to the "appearance" of SOME (and its compounds) in negative sentences. When this occurs, SOME (or compounds)falls outside the scope of negation. If not, ANY (or compounds) would be used in its place. We chose sentences of the following types to be included in the test:[18]

(6) I didn't know ____ of the synonyms which were explained. Just a few of them.

(7) ____ from the Company could not go to the convention but sent Doris as representative.

(8) We're sorry that ____ didn't write to you immediately about the company's intentions.

(9) I didn't know that ____ happened to the teacher. Was it serious?

(10) You only mentioned this subject once. Why didn't you say ____ else?

This rule demonstrated that students had great difficulty in the production of the forms being discussed. Only 15% of the students produced correct responses while more than half students - 57% opted for unacceptable sentences. The percentage of partially correct responses reached 27% of which sentences (6), (7) and (8) were not included since they present only one possible alternative – SOME or SOMEBODY. Among these responses ANY (or compounds) was more frequent than SOME. For example, "You only mentioned this

[18] Sentences 9 and 10 were especially included here to increase students' confusion upon these forms. These sentences could also have been used to apply for other "rules".

subject once. Why didn't you say anything else?" This we believe, reveals the students' non-observation of the context.

For this rule the percentage of erroneous sentences reaches 57%; three out of five of the test sentences were responsible for this because they probably presented only one alternative determined by the context. For instance, "We're sorry that somebody didn't write to you immediately about the company's intention," where the context would force us to use the assertive form once there would be someone (and we know there is) responsible for such a task. In this case, "somebody" falls outside the scope of the negative showing a "positive supposition." It is true that the students did not choose the assertive form. Instead they used the non-assertive "anybody" generalizing the rule already acquired that 'any' and compounds should be used in negative sentences. This, we feel, demonstrated a case of "intralingual interference." The other two sentences are counted in partially correct responses because either the assertive or non-assertive form could be used in English. For instance, "I didn't know that something happened to the teacher. Was it serious?" where ANYTHING also applies depending on the attitude of the speaker. This increases the chance for the students to have correct forms. ANYTHING tended to be the normal choice for the students. Naturally, this occurs because they had learnt that only ANY and its compounds are used in such cases.

Rule 3 relates to other use of SOME and its compounds in requests or interrogative sentences (affirmatives and negatives where ANY and its compounds are normally used). The

purpose of this lies in the possibility of the students' perception of different uses of SOME (and its compounds). Our test sentences were:

(11) May I have ____ more potatoes, please? I have used up all I bought yesterday.
(12) Did ____ phone? I heard the telephone ring.
(13) What are ___ of the difficulties of shopping in this street.
(14) Why hasn't John done ____ to end the war?
(15) Can't we eat ____ else, Arthur? Very few small hotels like this serve good food.
- I know, but there isn't anywhere else in this town.

Rule 3 showed one of the highest indices of unacceptable answers - 61%. This percentage was attributed to sentences such as "May I have <u>any</u> more potatoes, please?" or "What are <u>any</u> of the difficulties of shopping in this street?" On the other hand, the rest of the students' responses demonstrated that for almost two fully correct responses there was one partially correct answer excluding sentences (11), (12) and (13) which required only one form. The percentage for partially correct answers reached 13% which was attributed to sentences such as "Can't we eat <u>anywhere</u> else, Arthur?" and "Why hasn't John done <u>anything</u> to end the war?" Of course, both sentences are perfectly acceptable in English.

For rule 3, we have 25% of the answers being correct. In this case, SOME and compounds are to be used in interrogatives including sentences of the type "May we have

some more potatoes please?". It seems to be evident that another case of generalization occurred here since the students extended the rule already acquired. That is, in a sentence such as "Did somebody phone? I heard the telephone ring, " the students again appeared not to have observed the positive implications of the use of "somebody" where it should imply "of course somebody phoned." Again, non-assertive forms were used in interrogative sentences no matter what the context provides. This is an example of "intralingual interference."

Rule 4 relates to conditional and apparently conditional sentences. One of the uses of ANY and its compounds is in these sentences. But, SOME (and compounds) may appear in conditional sentences enabling the sentence to offer a positive expectation (or supposition).

Our intention was to offer the two possibilities in most of the sentences as it could reflect the students' level of awareness of these forms in different contexts. In the following, we present the test sentences:

(16) I wonder whether you could say _____ else.
(17) We should have to buy a cat if ____ mice appeared.
(18) I asked for help, doubting however whether ____ would volunteer.
(19) If ____ were to drop a match here the house would be on fire in two minutes.
(20) I don't know whether ___ could do this for me.

In these sentences, the meaning of the whole sentences

should be observed as well as its presuppositions (positive or not).

The percentage of correct responses was 13% while the incorrect ones reached 35%. Among the incorrect responses, we encountered sentences such as "I wonder whether you could say nothing else," which we believed, students misunderstood the meaning of the sentence.

A great number of students made only one choice to complete the sentences. This revealed 51% of the answers being partially correct. The most frequent form to occur was SOME (or compounds). For example, "We should have to buy a cat if some mice appeared." We have observed here, that the flexibility of the sentence in accepting either form reduced the likelihood of wrong answers. Though the informants have chosen the assertive forms and their answers were considered partially correct, we have the impression that the same case of overgeneralization is present because the other possible form seemed to have been forgotten.

The use of non-assertive forms in formal negative sentences is treated in three separate rules - 5, 6 and 7. Rule 5 refers to the use of NO forms instead of ANY (and compounds) before the negative marker "NOT". That is, ANY and its compounds cannot precede "NOT" in a sentence. For example, "Anybody can't drink here. In such cases, the negative forms NO, NOBODY, NOTHING, etc... are used having the negative marker in themselves as in "Nobody can drink here." But ANY (or

compounds) may appear initiating a negative sentence when this sentence contains a relative clause. For instance, "Anyone who drinks can't go."

We decided then to choose two test sentences which allowed the use of ANY and its compounds in initial position preceding "NOT" and three sentences able to accept the NO forms:

(21) _____ understood what I've said. I had to explain everything again.
(22) _____ who commits such a crime cannot stay free.
(23) _____ who does such a thing isn't honest.
(24) The leader of the Opposition said the Government was doing _____ at all to help the homeless.
(25) _____ sound could be heard. It was absolutely quiet.

We would like to emphasize that these structures as well as others presented in this study may only be encountered in later stages of language learning and for this reason we tested students in the final stages of their course. To test the common use of ANY (and its compounds) in simple negative sentences would not provide us with much information about the peculiar cases since we are aware that these common uses had been taught early in their learning. It is not our intention to determine the level of acquisition of these forms but rather, if they are present or not in our students' language.

Among the answers for rule 5, we had no sentences

considered partially correct responses. Here we should include sentences 22 and 23. However, the assertive forms used in these sentences may be considered 'questionable' by some speakers. The percentage for correct answer reached 35%. It seems evident that a far higher percentage -64% of the students, however opted for unacceptable forms. This may indicate some defect in the students' grammar.

The percentage of erroneous sentences is attributed mainly to sentences such as "Nobody who commits such a crime cannot stay free;" "Some sound could be heard. It was absolutely quiet." These errors may be derived from the non-observation of the context which made the learner use the assertive and negative forms instead of the non-assertive and negative ones. Thus, we assume that the students were not aware of the syntactic restrictions for the use of non-assertives in the first type of sentences and the negatives in the second type. This may demonstrate that the rule is acquired, but not the exception.

Rule 6 deals with the use of ANY and its compounds in a sentence determined by the use of a previous negative be it NOR, NO, NOBODY, etc. That is, any negative form may be said to determine the occurrence of ANY and its compounds when they fall inside the scope of the negative. We selected the following sentences to our test:

(26) She can't find her powder compact ____.
(27) I've never thought that ____ could do anything for me.
(28) None of us can say ____ in her favour.

(29) He says he isn't going to give us ____ advice at all.
(30) Nobody said _____ about this author.

The results of this rule indicate that students had less difficulty with producing the correct forms here than for any other rule. The percentage for correct responses reached 58% exceeding the 42% of the erroneous answers. We presume that the students were aware of the restrictions they applied when producing these types of sentences.

Comparing these results to those of rule 5, we observed that they suggest the idea of ANY associated with negation to be present in our informants' grammar. On the other hand, it is fair to say that the great majority of students' errors appeared to be due to interference from mother tongue - Portuguese. For example, in a sentence such as "Nobody said anything about this author," there was a tendency among the students to use the negative form "NOTHING." This is typical of Portuguese "Ninguém disse nada a respeito deste autor."

Rule 7 also regards the use of ANY and NO forms in negative sentences containing verbs such as "think," "believe," "suppose," etc. These verbs have the characteristics that when in negative form the negation also reaches the subordinate clause. In this case, ANY and its compounds can be used in the subordinate clause falling inside the scope of the negative. The negation of verb may also be transferred more clearly to the subordinate clause if we use the negative forms (NO, NOBODY, NOTHING, etc.) instead of the non-assertive ones. Although there is no formal negation present in sentences 34 and 35, their context requires the use of negative forms. The following

are the test sentences:

(31) Paul didn't know that ____ had done the test.
(32) I don't think he has ____ money.
(33) I don't believe I can spare _____ time.
(34) He knew that ____ would come. They had all gone to Italy.
(35) I want you to see ____ until I come back. If you disagree I'll punish you.

This rule presented the following results: 48% of the students produced unacceptable answers; 26% had correct responses and 25% produced partially correct answers attributed to the first three sentences. For example, very few students had sentences such as "I don't think he has some money," or "Paul didn't know that somebody had done the test." Some of these sentences are acceptable in English and for this reason we could not consider the students' responses to be totally wrong. In fact, we attributed both correct forms (SOME, ANY) to our fully correct responses. What seems to be clear here, is that some of the students had not observed that the negation in the verb could also reach the subordinate clause depending, of course, upon the attitude of the speaker. That is, students presented an incomplete knowledge as to the use of assertive and non-assertive forms in these types of sentences.

It is interesting to observe that among the incorrect responses, sentences 34 and 35 presented many more errors than the other types. The students had sentences such as "He knew that somebody would come. They had all gone to Italy" or "I want you to see somebody until I come back. If you disagree

I'll punish you." We presume that students once more extended the use of SOME(and its compounds) in affirmative sentences to sentences such as these. They appeared to fail to observe that the action of "come" (in sentence 34) would not take place as the following sentence completes the meaning of the whole utterance - "They had all gone to Italy;" and also the threatening words of sentence 35 which seemed to be designed to prevent an action which reflects someone's wishes - somebody is told not to see anyone or not to leave the room.

Rule 8 regards the use of ANY and its compounds required by the appearance of "incomplete negative" words (scarcely, hardly, rarely, seldom, etc.) in affirmative sentences. These words are said to be negative in meaning but not in appearance. The test sentences were:

(36) Scarcely _____ accepted suggestions, not even the director.
(37) A writer of a testimonal rarely says ____ really damaging.
(38) He seldom gets ____ sleep.
(39) You have hardly eaten ____ today.
(40) We had to stop for petrol because we had hardly ____ left.

Our intention here was to observe the students' ability to recognize the negative meaning of the incomplete negatives and to apply the correct form to the sentence containing these words.

The results to this rule indicated that the highest percentage of students (i.e. 74%) opted for unacceptable sentences. The remainder (25%) chose the correct forms. Among

the unacceptable answers, we encountered sentences such as "Scarcely somebody accepted suggestions, not even the director" or "You have hardly eaten something today." The students gave the impression of not observing the semantic negative implications of these words once they chose the assertive forms to complete the sentences. As formal negation could not be seen in the sentences they apparently overgeneralized the use of assertives in seemingly affirmative sentences.

Rule 9 is similar to rule 8. It refers to the use of ANY and its compounds associated with "implied negatives." These types of words have the property of allowing the use of non-assertive forms within the sentence. We had test sentences such as:

(41) He denied that he had offered her ____ drink at all.
(42) It would be impossible for ____ to come to the party. They were all at the theatre.
(43) He refused _____ change of job.
(44) Many people have to end their days in uncomfortable houses or bed-sitting rooms without ____ help or companionship from friends.
(45) The police were unable to find ____ trace of the criminal.

Again, the students' knowledge of the negative words and their connection to ANY and its compounds was observed.

The results of this rule are quite clearly defined. A great number of students produced unacceptable sentences - 64%

while the remainder chose the correct ones - 35%. Among these unacceptable sentences we encountered "He refused some change of job;" "The police were unable to find some trace of the criminal." This was attributed to overgeneralization of SOME (or compounds) being used only in affirmative sentences.

Rule 10 relating to ANY and its compounds being used, in affirmative sentences with the meaning of "no matter what" or "who" presented test sentences of the types:

(46) You can visit me at ____ time of the day.
(47) ____ chemist could tell you it's poison.
(48) He might come at ____ moment.
(49) ____ who is interested in the meeting should see the secretary.
(50) She's so hungry she will eat ____. Even stale bread.

This rule presented almost a great number of students (43%) producing unacceptable answers. In the rest of the responses, students had 28% of fully correct answers and the same percentage for partially correct sentences. The percentage of partially correct answers is attributed to sentence 49 which seems to allow the SOMEONE form to occur - "Someone who is interested in the meeting should see the secretary; and to the possibility of inserting "NO" in sentence 47 - "No chemist could tell you it's poison." These kinds of sentences were encountered in the students' responses.

Among the unacceptable answers given the assertive forms were present. We had sentences such as "You can visit me

at some time of the day;" "Some chemist could tell you it's poison;" "He might come at some moment." We assume this illustrates one more case of overgeneralization since students observed only the syntactic affirmativeness of the sentences without their negative nuances.

At this point, we should make a brief comparison of the rules presented. Some of these "rules" seem to reflect complete or incomplete knowledge of our student-informants in respect to SOME/ANY/NO forms. Figure 2 tries to visualize the degree of difficulty faced by our students:

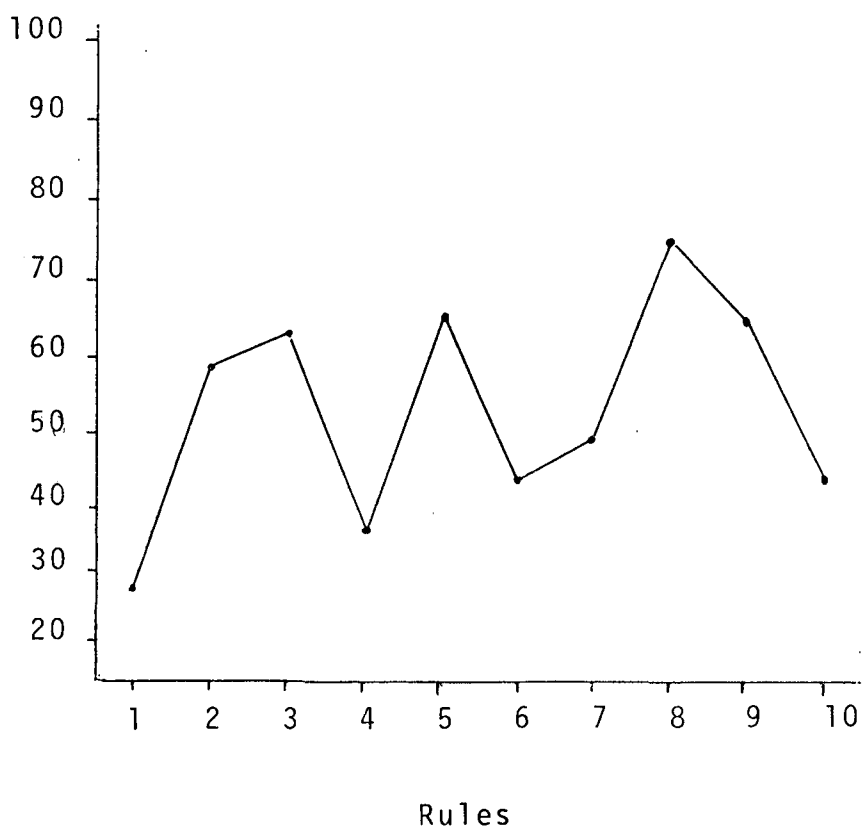


Fig. 2 - Chart representing the range of difficulty among students.

We could also have a more detailed view of the students' answers subdividing table II by taking into consideration the rules which clearly admitted partially correct answers corresponding to table III and table IV and also considering the rules which apparently did not permit the answers of the partially correct type. This could be observed in 33 sentences which comprise those rules, that is, omitting rules 5, 6, 8 e 9.

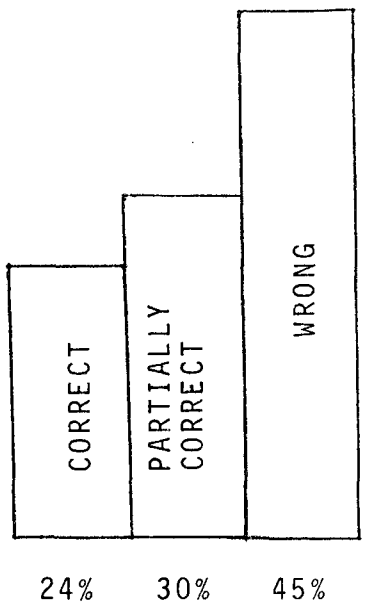
T a b l e III

	C.	P.C.	W.
Rule 1	0,36	0,36	0,27
Rule 2	0,15	0,27	0,57
Rule 3	0,25	0,13	0,61
Rule 4	0,13	0,51	0,35
Rule 7	0,26	0,25	0,48
Rule 10	0,28	0,28	0,43
Total	0,24	0,30	0,45

This table shows that though considering the partially correct responses as a striking point, the tendency for correct answers was relatively low in relation to wrong and partially correct answers.

It is also fair to argue that the percentage of partially correct responses may indicate that the students were trying to formulate new hypotheses in the target language. Considering the percentages for both partially and incorrect answers we note that the learning process proceeds with the

learner attempting to utilize the target language in his need for communication. This may be illustrated in:



Observing the results for Table IV, we would have the following:

T a b l e IV

	C.	P.C.	W.
Rule 5	0,35	0,00	0,64
Rule 6	0,58	0,00	0,42
Rule 8	0,25	0,00	0,74
Rule 9	0,35	0,00	0,64
Total	0,38	0,00	0,61

From sentences 21 to 30 and 36 to 45, we had the impression that only one form was acceptable. This would increase the number of correct and incorrect answers which would reveal a tendency for incorrect answers demonstrating

our students' inability to use the appropriate forms.

On the whole, tables III and IV indicate the learner's effort in using strategies which he gradually organizes when he needs to use the language he is learning. In other words, the students' 'transitional competence' is then revealed through these results with the idea that a correct form cannot be taken as proof that our students had learned the systems nor can a superficially non-deviant form be evidence of mastery of language since only the situational context may determine this.

From the whole discussion, we infer that the major types of errors encountered in the students' responses are of the intralingual type. They seemed to be caused by extension of target language (English) rules to areas where they do not apply. That is, our students tended to overgeneralize the use of ANY (and compounds) and SOME (and compounds) by limiting the use of ANY to negative or interrogative sentences and SOME to affirmatives. For example, "I didn't know any of the synonyms which were explained. Just a few of them." The students did not seem to observe the negative meaning of some words as in "Scarcely somebody accepted suggestions, not even the director." The minor types of errors seemed to be caused by interference as in "Nobody said nothing this author."

We should now consider the most common types of errors for each rule. The sentences are presented according to their numbers in the test. We observe that in rule 1, sentence 7 there was a certain confusion among the students since their responses revealed SOME and ANY forms together in the sentence thus, we had "Some/Any Brazilians writers are well-known."

This may reflect students' incomplete knowledge of the restrictions governing SOME and ANY use. As for partially correct responses, students failed to observe the possibility of sentence 11 accepting, either, SOMEWHERE or NOWHERE and just one form was chosen "I've seen this man somewhere. I'm sure of it."

For rule 2, students seemed to have had trouble with sentence 18 where they chose ANYBODY instead of SOMEBODY. This may indicate a strong influence of a previously acquired rule on the students' part: negation on the verb implies the use of non-assertive forms in the sentence. Then they had "We're sorry that anybody didn't write to you immediately about the company's intentions. For partially correct responses, students presented only one form for sentence 36: "You only mentioned this subject once. Why didn't you say anything else?" A great number of students chose ANYTHING because they seemed to have associated it to interrogative sentences.

In rule 3, our informants preferred to use ANYBODY instead of SOMEBODY in sentence 10, this being the most common type of error for this rule: "Did anybody phone? I heard the telephone ring." Sentences 23 and 37 led the students to answer with only one form ANYTHING, leaving aside the possible SOMETHING as suggested by the context.

The most important types of responses given for rule 4 appeared in sentences 30 and 43. Students tended to use SOME in "We should have to buy a cat if some mice appeared" and ANYBODY in "I don't know whether anybody could do this

for me," the reason being the observation of affirmative and negative sentences determining the use of SOME and ANY respectively. For the rest of the sentences, there was a certain variation among students. NOBODY and SOME were used by most of them indistinctively.

For rule 5, students tended to err in sentence 27 where SOMEBODY or NOBODY seemed to have been preferred instead of ANYBODY: "Somebody/Nobody who commits such a crime cannot stay free."

For rule 6, students demonstrated influence of their mother tongue since the majority of the errors were of the type "Nobody said nothing about this author" which corresponds to a common Portuguese structure already presented on page 73.

In rule 7, the students' most common error appeared in sentence 34 where they preferred SOMEBODY instead of NOBODY: "I want you to see somebody until I come back. If you disagree I'll punish you." Again, we are faced with an intralingual type of error in which students revealed their tendency to use SOME only in affirmative contexts. This may also be applied to partially correct sentences in which they tended to use ANY in sentences 22, 35 and 44.

In rule 8, students seemed to have no knowledge of the restrictions required by words such as scarcely, hardly and this seems to be revealed through sentences 31 in which NOBODY was used in the place of ANYBODY: "Scarcely nobody accepted suggestions, not even the director." We feel that Portuguese interference may be responsible for such error corresponding to "Quase ninguém aceitou sugestões...."

Rule 9 presents sentence 12 being responsible for the majority of errors. Students failing to perceive the negative idea present in the sentence, chose SOME instead of ANY revealing once more that they use SOME in affirmative sentences. So we had "He denied that he had offered her some drink at all."

For rule 10, the majority of errors seemed to have been due to interference of the target rules previously learned: SOME used for affirmations. For this reason,students failed to use ANY in such sentences as the context required and thus presenting sentence 26 to ensure this "She's so hungry she will eat something. Even stale bread." For partially correct responses, a large number of students chose only one form for sentence 48 "Anybody who is interested in the meeting should see the secretary."

It is our impression that such errors are due to misunderstanding of meaning and usage of these forms because of "faulty or inadequate explanation." We compared this study to that arrived at by Stenson, of advanced or intermediate students in Tunis where she describes errors resulting mainly from "classroom situation." Students were asked the meaning of ANY and to give examples. The sentences produced were of the type "Anybody has to work" on "In a private garden anyone can enter," where the tendency was to regard ANY as a simply negative word. Stenson believes that such sentences were the product of faulty explanation since students had been told that ANY is used in negatives and they interpreted ANY being a negative word like NOTHING or NOBODY.

There are some differences of our study from that made by Stenson: (a) her oral research; (b) her purpose was to discover if students knew the meaning of ANY while we observed the level of comprehension and use of SOME/ANY/NO forms; (c) our students' responses demonstrated that they applied ANY to negative sentences and did not change ANY to NO (or other negative word) in apparently affirmative sentences. For example, in a sentence such as "No sound could be heard. I was absolutely quiet," some of the students chose the NO form as the sentence requires but a great number decided on SOME. It seems to be evident that our students had been informed that SOME (and compounds) in interrogative and negative sentences, although the choice of SOME does not indicate that ANY would be used instead of NO.

Our limited research finds some support in Stenson's study where she perceived that there was a tendency in advanced students not to use words involving "polarity", that is, words that may occur only in affirmative, or only in negative sentences. However, students may be able to understand them when encountered. Another point she referred to was the fact that these words are among the last things to be learned and rarely used even at advanced levels. Her opinion is in fact true since our students were not able to perceive the negative meaning of some words (i.e. negative-polarity words). That is, they did not observe that in a sentence such as "He denied that he had offered her any drink at all," the verb "deny" and the expression "at all" help to determine the "deep" negative meaning present in the whole sentence where thus, "any" may apply.

We should observe here the minor types of errors which were due to interference from mother tongue. In Portuguese there is a tendency to use "not" together with a negative word such as "Ela não comeu nada," or two negative words present in the same sentence as in "Ninguém disse nada a seu respeito." This may lead our students to produce sentences such as "Nobody said nothing" instead of "Nobody said anything about you." In other words, Portuguese speakers of English tended to use two negatives in English in the same clause as they commonly do in Portuguese. Thus, sentence such as "Nobody said nothing" though, considered here non-standard English, has a close relation to Portuguese.

We believe that our students might be able to understand the forms tested when encountered but they did not seem to have observed the distinctions existing among them, especially those which refer to "implied" and "incomplete" negatives and their relation to the use of "any;" they seemed to perceive syntactic negation rather than semantic negation and its implications.

It seems to be true that our students had not been informed of the different contexts (or exceptions) in which these forms can occur, even during the final stages of their course.

Although it could be argued that our elicited questions may not reveal "systematic" errors but rather errors resulting from "classroom situations", it is fair to say that our procedures attempted to reveal errors due to "incomplete acquisition." Such errors seemed to have been influenced by

teaching techniques responsible for "intralingual interference" most of the time, as had been demonstrated by Richards and Selinker previously.

Thus, we should bear in mind that "SOME (and compounds) in negative and interrogative sentences is not merely a stylistic variant of ANY; nor is ANY in affirmative sentences simply a stylistic variant of SOME. The difference is fundamentally a semantic one."[19]

[19] L.A.Hill. "SOME and ANY". Selected Articles on the Teaching of English as a Foreign Language, p. 55.

CONCLUSION

The purpose of this dissertation has been to present some findings concerning the comprehension and use of the SOME/ANY/NO forms by advanced students. The presentation has been somewhat biased by the theory of Error Analysis pointing out the learner's "performance data," in an attempt to explain "errors and non-errors."

We should emphasize that the conclusions we have arrived at refer to a restricted group of learners and that they could not generally be applied to all students learning a foreign language, in view of the limitations of our work.

The first step in this dissertation has been to find some linguistic support of aspects involving second and foreign language learning. The main emphasis has centered around an analysis of strategies employed by the (adult) learner who tends to maintain in his "approximative language system," structures of his native language.

A second point to be considered has been the aspects of English Assertive, Non-Assertive and Negative forms. We have paid particular attention to the distinctions governing the use of these forms and their compounds, especially SOME and ANY. From a general point of view the use of these forms are related to the attitude of the speaker. That is, SOME involves a "positive feeling" and ANY a "neutral or negative

expectation" on the part of the speaker. It is obvious that this is an extremely complex area of English grammar and despite the frequency of occurrence and usefulness of these forms, they present some difficulty for non-native speakers.

From our experience, students often appear to have difficulty in the use of even the most "straightforward" realizations of these forms. It may be that one of the reasons for such difficulty lies in efforts by teachers or students themselves to overgeneralize or oversimplify rules relating to the use of these forms, especially SOME or ANY.

In an effort to make a contribution, however small, to the teaching of English as a foreign language, we have tested students at Paraiba Federal University on the use and comprehension of those forms with the purpose of identifying the main problems faced by our students when needing to use such forms.

Although SOME/ANY/NO forms are often considered superficially simple, they may offer some problems to our students in that, being to some extent subjective, they create a certain hesitation in the student's mind which might well be the cause of many errors. But, this fact can not be seen as an obstacle to the understanding of these forms nor to the development of his language learning process.

We have observed that a greater number of errors were caused by interference of English language internal rules rather than Portuguese interference. For example, "What are

any of the difficulties of shopping in this street?" "I didn't know any of the synonyms which were explained. Just a few of them," or "He denied that he had offered her some drink at all." In these unacceptable sentences, students tended to overgeneralize the use of SOME/ANY restricting their use only to affirmative (SOME), interrogative and negative sentences (ANY). Such a strategy employed by our students may be attributed to complexity within the foreign language and to the subtleties of these forms.

Another type of error encountered in our students' responses revealed an interference from the mother tongue. We have sentences such as "Nobody said nothing about this author" where the influence of the use of two negatives in the same sentence in Portuguese "Ninguēm disse nada sobre este autor" seems to be evident.

We presumed that these kinds of interference have some links to the teaching methods employed in the explanation of these linguistic items which may not provide an account for the grammatical and semantic restrictions which govern the use of these forms.

We have briefly analysed the textbooks used in our course - *Kernel Plus* and *Interaction* both by Robert O'Neil for third and fourth year students. The books present the most common uses of the forms being studied, generally leaving aside, what to our students, appeared to be the most difficult of the realizations of these forms. For instance, they exemplify the use of ANY in interrogatives and negatives and

SOME in affirmatives. However, although examples of other uses of these forms do occasionally occur (i.e. in dialogues) no overt explanation is added to indicate the reason for the occurrence, for example, of SOME in negative sentences. The learner apparently being expected to grasp the very uses of these forms inductively.

We have also asked the teachers personally if they supply students with more information about these examples and we were given negative answers.

In our judgement these results indicate that students would have benefited, where possible, by explanation and practice of a wider range of the possible realizations of these forms.

We sum up with the following points:

(a) our student-informants had mastered a particular syntactic language (i.e. SOME is used in affirmative sentences and ANY in interrogative and negative sentences);

(b) they overgeneralized this rule in almost the entire test;

(c) the absence of other uses of these forms in the students' language may be due to the fact that they are among the last things to be learned.

It should be clear however, that the foregoing remarks have only touched the surface area of the problem presented. We hope however, that our study has made a positive

contribution in this field of linguistic research.

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APPENDIX I

TEST SUBMITTED TO STUDENTS AT PARAIBA FEDERAL UNIVERSITY

In the following sentences, indicate which alternative or alternatives could be used from among the following sentences:

1. SOME	5. ANY	9. NO
2. SOMEBODY	6. ANYBODY	10. NOBODY
3. SOMETHING	7. ANYTHING	11. NOTHING
4. SOMEWHERE	8. ANYWHERE	12. NOWHERE

Indicate your choice by writing the appropriate number in the brackets. Where you thing more than one word could be used depending on the meaning write what you consider to be the most probable choice first.

Example: *Have you got 1;5 money?*

1. Most people have at least ____ relations they enjoy meeting.
2. The leader of the Opposition said the Government was doing ___ at all to help the homeless.
3. Say ___ about two of the main traffic problems of your country.
4. May I have ___ more potatoes, please? I have used up all those I bought yesterday.

5. I didn't know ____ of the synonyms which were explained. Just a few of them.
6. She can't find her powder compact _____.
7. _____ Brazilian writers are well-known.
8. ____ from the Company could not go to the convention but sent Doris as representative.
9. You can visit me at ____ time of the day.
10. Did ____ phone? I heard the telephone ring.
11. I've seen this man ____. I'm sure of it.
12. He denied that he had offered her ____ drink at all.
13. I wonder whether you could say ____ else.
14. What are ____ of the difficulties of shopping in this street?
15. _____ understood what I've said. I had to explain everything again.
16. He seldom gets ____ sleep.
17. I heard that ____ has broken the padlock.
18. We're sorry that ____ didn't write to you immediately about the company's intentions.
19. ____ chemist could tell you it's poison.
20. I've never thought that ____ could do anything for me.
21. You have hardly eaten ____ today.
22. Paul didn't know that ____ had done the test.
23. Can't we eat ____ else, Arthur? Very few small hotels like this serve good food.
24. We had to stop for petrol because we had hardly ____ left.
25. ____ sound could be heard. It was absolutely quiet.
26. She's so hungry she will eat ____. Even stale bread.
27. ____ who commits such a crime cannot stay free.
28. None of us can say ____ in her favour.

29. I didn't know that ____ happened to the teacher. Was it serious?
30. We should have to buy a cat if ____ mice appeared.
31. Scarcely ____ accepted suggestions, not even the director.
32. ____ who does such a thing isn't honest.
33. It would be impossible ____ to come to the party. They were all at the theatre.
34. I want you to see ____ until I come back. If you disagree I'll punish you.
35. I don't think he has ____ money.
36. You only mentioned this subject once. Why didn't you say ____ else?
37. Why hasn't John done ____ to end the war?
38. He says he isn't going to give us ____ advice at all.
39. A writer of a testimonal rarely says ____ really damaging.
40. The police were unable to find ____ trace of the criminals.
41. Nobody said ____ about this author.
42. I asked for help, doubting however whether ____ would volunteer.
43. I don't know whether ____ could do this for me.
44. I don't believe I can spare ____ time.
45. He might come at ____ moment.
46. He refused ____ change of job.
47. If ____ were to drop a match here the house would be on fire in two minutes.
48. ____ who is interested in the meeting should see the secretary.
49. He knew that ____ would come. They had all gone to Italy.
50. Many old people have to end their day in uncomfortable houses or bed-sitting rooms without ____ help or companionship from friends.

APPENDIX II

```
//JP0567 JOB RITA
// EXEC FORTGCLG
XXFORT     EXEC PGM=IEYFORT,REGION=100K                                    00020000
XXSYSPRINT DD  SYSOUT=A                                                    00040000
XXSYSPUNCH DD DUMMY                                                        00060000
XXSYSLIN   DD  DSNAME=&LOADSET,DISP=(MOD,PASS),UNIT=SYSSQ,                X00080000
XX             SPACE=(80,(200,100),RLSE),DCB=BLKSIZE=80                    00100014
//FORT.SYSIN DD *
IEF236I ALLOC. FOR JP0567   FORT
IEF237I 151   ALLOCATED TO SYSLIN
IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF285I   SYS82138.T145247.RF102.JP0567.LOADSET         PASSED
IEF285I   VOL SER NOS= UFPVS2.
XXLKED EXEC PGM=IEWL,REGION=96K,PARM=(XREF,LET,LIST),COND=(4,LT,FORT)      00120000
XXSYSLIB   DD  DSNAME=SYS1.FORTLIB,DISP=SHR                                00140000
XXSYSLMOD  DD  DSNAME=&GOSET(MAIN),DISP=(NEW,PASS),UNIT=SYSDA,             X00160000
XX             SPACE=(1024,(20,10,1),RLSE),DCB=BLKSIZE=1024                00180014
XXSYSPRINT DD  SYSOUT=A                                                    00200000
XXSYSUT1   DD  UNIT=SYSDA,SPACE=(1024,(100,10),RLSE),DCB=BLKSIZE=1024,     X00210018
XX             DSNAME=&SYSUT1                                              00220018
XXSYSLIN   DD  DSNAME=&LOADSET,DISP=(OLD,DELETE)                           00240000
XX         DD  DDNAME=SYSIN                                                00260000
IEF236I ALLOC. FOR JP0567   LKED
IEF237I 151   ALLOCATED TO SYSLIB
IEF237I 151   ALLOCATED TO SYSLMOD
IEF237I 152   ALLOCATED TO SYSUT1
IEF237I 151   ALLOCATED TO SYSLIN
IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF285I   SYS1.FORTLIB                                  KEPT
IEF285I   VOL SER NOS= UFPVS2.
IEF285I   SYS82138.T145247.RF102.JP0567.GOSET           PASSED
IEF285I   VOL SER NOS= UFPVS2.
IEF285I   SYS82138.T145247.RF102.JP0567.SYSUT1          DELETED
IEF285I   VOL SER NOS= UFPVS3.
IEF285I   SYS82138.T145247.RF102.JP0567.LOADSET         DELETED
IEF285I   VOL SER NOS= UFPVS2.
XXGO EXEC PGM=*.LKED.SYSLMOD,COND=((4,LT,FORT),(4,LT,LKED))                00280000
XXFT05F001 DD  DDNAME=SYSIN                                                00300000
//GO.FT06F001 DD SYSOUT=A,OUTLIM=0
X/FT06F001 DD  SYSOUT=A                                                    00320000
XXFT07F001 DD  SYSOUT=B                                                    00340000
//GO.FT02F001 DD *
//
IEF236I ALLOC. FOR JP0567   GO
IEF237I 151   ALLOCATED TO PGM=*.DD
IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF285I   SYS82138.T145247.RF102.JP0567.GOSET           PASSED
IEF285I   VOL SER NOS= UFPVS2.
IEF285I   SYS82138.T145247.RF102.JP0567.GOSET           DELETED
IEF285I   VOL SER NOS= UFPVS2.
IEF298I  JP0567   SYSOUT=A.
```

```
      INTEGER GAB(10,20),G(50),RESP(50,3),R(50)
      INTEGER RCT (10),RCIT(10),RPCT(10),RPCIT(10),RET(10)
      INTEGER RCA(10),RCIA(10),RPCA(10),RPCIA(10),REA(10)
      REAL KC,KCI,KPC,KPCI,KE
C - INICIALIZA AS VARIAVEIS QUE CONTERAO OS VALORES TOTAIS
      DO 200 I=1,10
      RCT(I)=0
      RCIT(I)=0
      RPCT(I)=0
      RPCIT(I)=0
      RET(I)=0
  200 CONTINUE
      KONT=0
      KSTD=1
C - LEITURA DO GABARITO DAS PROVAS COM AS REGRAS RESPECTIVAS
      READ(2,1)((GAB(I,J),J=1,20),I=1,10)
    1 FORMAT(2X,20I2)
C - CALCULA TAMANHO DOS GABARITOS DE CADA RESPOSTA
      DO 2 I=1,50
    2 G(I)=0
      DO 8 I=1,10
      L=GAB(I,1)
      K=2
    6 LK=K+2
      DO 3 J=K,LK
      IF(GAB(I,J))4,5,4
    4 G(L)=G(L)+1
    3 CONTINUE
    5 K=K+4
      IF(K-20)7,7,8
    7 L=GAB(I,K-1)
      GO TO 6
    8 CONTINUE
C - LEITURA DAS RESPOSTAS DO ALUNO
   60 READ(2,9)NA,((RESP(I,J),J=1,3),I=1,50)
    9 FORMAT(I2,1X,30I2,/,3X,30I2,/,3X,30I2,/,3X,30I2,/,3X,30I2)
      WRITE(6,210)
  210 FORMAT(1H1,5X,'STUDENT ANSWERS',/)
      WRITE(6,220)NA,(I,(RESP(I,J),J=1,3),I=1,50)
  220 FORMAT(////,2X,'ALUNO N.',I3,/,(7X,'QUESTION',I3,' ** ',3I4))
      KONT=KONT+1
C - CALCULA O TAMANHO DAS RESPOSTAS
      DO 10 I=1,50
   10 R(I)=0
      DO 13 I=1,50
      R(I)=0
      DO 12 J=1,3
      IF(RESP(I,J))11,13,11
   11 R(I)=R(I)+1
   12 CONTINUE
   13 CONTINUE
C - INICIALIOA AS VARIAVEIS QUE CONTERAO OS RESULTADOS DO ALUNO
      DO 300 I=1,10
      RCA(I)=0
      RCIA(I)=0
      RPCA(I)=0
      RPCIA(I)=0
      REA(I)=0
```

```
FORTRAN IV G LEVEL  21                MAIN                DATE = 82138          14/53/15          P

0053          300  CONTINUE
0054               DO 50 I=1,10
0055               NQ=GAB(I,1)
0056               K=2
0057          148  IF(R(NQ))48,35,48
0058           48  IF(R(NQ)-G(NQ))14,15,35
0059           14  IF(R(NQ)-1)17,18,17
0060           18  IF(G(NQ)-2)19,20,19
0061           15  IF(R(NQ)-1)21,22,21
0062           21  IF(R(NQ)-2)23,24,23
              C - C O R R E C A O
0063           22  IF(GAB(I,K)-RESP(NQ,1))35,31,35
0064           24  IF(GAB(I,K)-RESP(NQ,1))27,28,27
0065           28  IF(GAB(I,K+1)-RESP(NQ,2))35,31,35
0066           27  IF(GAB(I,K+1)-RESP(NQ,1))35,25,35
0067           25  IF(GAB(I,K)-RESP(NQ,2))35,32,35
0068           23  IF((GAB(I,K).EQ.RESP(NQ,1)).AND.(GAB(I,K+1).EQ.RESP(NQ,2)).AND.(GA
                  1B(I,K+2).EQ.RESP(NQ,3)))GO TO 31
0069               IF((GAB(I,K).EQ.RESP(NQ,1)).OR.(GAB(I,K).EQ.RESP(NQ,2)).OR.(GAB(I,
                  1K).EQ.RESP(NQ,3)))GO TO 26
0070               GO TO 35
0071           26  IF((GAB(I,K+1).EQ.RESP(NQ,1)).OR.(GAB(I,K+1).EQ.RESP(NQ,2)).OR.(GA
                  1B(I,K+1).EQ.RESP(NQ,3)))GO TO 29
0072               GO TO 35
0073           29  IF((GAB(I,K+2).EQ.RESP(NQ,1)).OR.(GAB(I,K+2).EQ.RESP(NQ,2)).OR.(GA
                  1B(I,K+2).EQ.RESP(NQ,3)))GO TO 32
0074               GO TO 35
0075           20  IF(GAB(I,K)-RESP(NQ,1))16,33,16
0076           16  IF(GAB(I,K+1)-RESP(NQ,1))35,34,35
0077           19  IF(GAB(I,K)-RESP(NQ,1))30,33,30
0078           30  IF(GAB(I,K+1)-RESP(NQ,1))36,34,36
0079           36  IF(GAB(I,K+2)-RESP(NQ,1))35,34,35
0080           17  IF((GAB(I,K).EQ.RESP(NQ,1)).AND.(GAB(I,K+1).EQ.RESP(NQ,2)))GO TO 3
                  13
0081               IF((GAB(I,K).EQ.RESP(NQ,1)).OR.(GAB(I,K+1).EQ.RESP(NQ,1)).OR.(GAB(
                  1I,K+2).EQ.RESP(NQ,1)))GO TO 37
0082               GO TO 35
0083           37  IF((GAB(I,K).EQ.RESP(NQ,2)).OR.(GAB(I,K+1).EQ.RESP(NQ,2)).OR.(GAB(
                  1I,K+2).EQ.RESP(NQ,2)))GO TO 34
0084               GO TO 35
              C - C O N C E I T O S
0085           31  KOD=1
0086               GO TO 100
0087           32  KOD=2
0088               GO TO 100
0089           33  KOD=3
0090               GO TO 100
0091           34  KOD=4
0092               GO TO 100
0093           35  KOD=5
0094          100  GO TO(41,42,43,44,45),KOD
0095           41  RCA(I)=RCA(I)+1
0096               GO TO 46
0097           42  RCIA(I)=RCIA(I)+1
0098               GO TO 46
0099           43  RPCA(I)=RPCA(I)+1
0100               GO TO 46
0101           44  RPCIA(I)=RPCIA(I)+1
```

```
0102            GO TO 46
0103         45 REA(I)=REA(I)+1
0104         46 KR=K+3
0105            IF(KR-17)47,47,50
0106         47 NQ=GAB(I,KR)
0107            K=KR+1
0108            GO TO 148
0109         50 CONTINUE
          C - IMPRIME A CORRECAO
0110            WRITE(6,230)
0111        230 FORMAT(1H1)
0112            IF(KSTD-3)201,201,202
0113        201 WRITE(6,206)NA
0114        206 FORMAT(10X,'STUDENT',I3,/)
0115            KSTD=KSTD+1
0116            GO TO 205
0117        202 WRITE(6,51)NA
0118         51 FORMAT(1H1,10X,'STUDENT',I3,//)
0119            KSTD=2
0120        205 WRITE(6,55)
0121         55 FORMAT(15X,'C',4X,'CI',3X,'PC',3X,'PCI',2X,'E',4X,'*',3X,'CORRECT'
               1,3X,'ACCEPTABLE',3X,'WRONG',/,40X,'*')
0122            DO 54 I=1,10
0123            IAC=RCIA(I)+RPCA(I)+RPCIA(I)
0124            WRITE(6,56)I,RCA(I),RCIA(I),RPCA(I),RPCIA(I),REA(I),RCA(I),IAC,REA
               1(I)
0125         56 FORMAT(2X,'RULE ',I2,6X,I2,3X,I2,3X,I2,3X,I2,3X,I2,3X,'*',6X,I2,9X
               1,I2,9X,I2)
0126         54 CONTINUE
0127            IRCA=0
0128            IRCIA=0
0129            IRPCA=0
0130            IPCIA=0
0131            IREA=0
0132            DO 53 I=1,10
0133            IRCA=IRCA+RCA(I)
0134            IRCIA=IRCIA+RCIA(I)
0135            IRPCA=IRPCA+RPCA(I)
0136            IPCIA=IPCIA+RPCIA(I)
0137            IREA=IREA+REA(I)
0138         53 CONTINUE
0139            IAC=IRCIA+IRPCA+IPCIA
0140            WRITE(6,66)IRCA,IRCIA,IRPCA,IPCIA,IREA,IRCA,IAC,IREA
0141         66 FORMAT(2X,'*TOTAL*',6X,I2,3X,I2,3X,I2,3X,I2,3X,I2,3X,'*',6X,I2,9X,
               1I2,9X,I2,/////)
          C - ACUMULA NO TOTAL
0142            DO 57 I=1,10
0143            RCT(I)=RCT(I)+RCA(I)
0144            RCIT(I)=RCIT(I)+RCIA(I)
0145            RPCT(I)=RPCT(I)+RPCA(I)
0146            RPCIT(I)=RPCIT(I)+RPCIA(I)
0147            RET(I)=RET(I)+REA(I)
0148         57 CONTINUE
0149            IF(KONT-40)60,61,61
0150         61 WRITE(6,62)
0151         62 FORMAT('1',10X,'TOTAL RESULTS',//)
0152            WRITE(6,71)
0153            DO 63 I=1,10
```

```
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0154                WRITE(6,65)I,RCT(I),RCIT(I),RPCT(I),RPCIT(I),RET(I)
0155             65 FORMAT(2X,'RULE ',I2,5X,I3,5X,I3,4X,I3,4X,I3,3X,I3)
0156             63 CONTINUE
0157                IRCT=0
0158                IRCIT=0
0159                IRPCT=0
0160                IPCIT=0
0161                IRET=0
0162                DO 67 I=1,10
0163                IRCT=IRCT+RCT(I)
0164                IRCIT=IRCIT+RCIT(I)
0165                IRPCT=IRPCT+RPCT(I)
0166                IPCIT=IPCIT+RPCIT(I)
0167                IRET=IRET+RET(I)
0168             67 CONTINUE
0169                WRITE(6,68)IRCT,IRCIT,IRPCT,IPCIT,IRET
0170             68 FORMAT(2X,'*TOTAL*',4X,I4,4X,I4,3X,I4,3X,I4,2X,I4)
0171                WRITE(6,80)
0172             80 FORMAT(////,15X,'CORRECT',4X,'ACCEPTABLE',4X,'WRONG',/)
0173                DO 81 I=1,10
0174                IAC=RCIT(I)+RPCT(I)+RPCIT(I)
0175                WRITE(6,82)I,RCT(I),IAC,RET(I)
0176             82 FORMAT(2X,'RULE ',I2,8X,I3,10X,I3,8X,I3)
0177             81 CONTINUE
0178                IAC=IRCIT+IRPCT+IPCIT
0179                WRITE(6,52)IRCT,IAC,IRET
0180             52 FORMAT(2X,'*TOTAL*',7X,I4,9X,I4,7X,I4)
0181                WRITE(6,70)
0182             70 FORMAT('1',5X,'** PERCENTAGE PER RULE **',/)
0183                WRITE(6,71)
0184             71 FORMAT(15X,'C',6X,'CI',5X,'PC',5X,'PCI',4X,'E',/)
0185                DO 72 I=I,10
0186                PC=FLOAT(RCT(I))/200.
0187                PCI=FLOAT(RCIT(I))/200.
0188                PPC=FLOAT(RPCT(I))/200.
0189                PPCI=FLOAT(RPCIT(I))/200.
0190                PE=FLOAT(RET(I))/200.
0191                WRITE(6,73)I,PC,PCI,PPC,PPCI,PE
0192             73 FORMAT(2X,'RULE ',I2,4X,F4.2,4(3X,F4.2))
0193             72 CONTINUE
0194                KC=FLOAT(IRCT)/2000.
0195                KCI=FLOAT(IRCIT)/2000.
0196                KPC=FLOAT(IRPCT)/2000.
0197                KPCI=FLOAT(IPCIT)/2000.
0198                KE=FLOAT(IRET)/2000.
0199                WRITE(6,78)KC,KCI,KPC,KPCI,KE
0200             78 FORMAT(2X,'*TOTAL*',4X,F4.2,4(3X,F4.2))
0201                WRITE(6,77)
0202             77 FORMAT(1H1)
0203                WRITE(6,74)
0204             74 FORMAT(//,13X,'CORRECT',4X,'ACCEPTABLE',4X,'WRONG',/)
0205                DO 75 I=1,10
0206                PC=FLOAT(RCT(I))/200.
0207                KAC=RCIT(I)+RPCT(I)+RPCIT(I)
0208                PA=FLOAT(KAC)/200.
0209                PE=FLOAT(RET(I))/200.
0210                WRITE(6,76)I,PC,PA,PE
0211             76 FORMAT(2X,'RULE ',I2,6X,F4.2,7X,F4.2,9X,F4.2)
```

```
0212          75  CONTINUE
0213              PTA=FLOAT(IAC)/2000.
0214              WRITE(6,89)KC,PTA,KE
0215          89  FORMAT(2X,'*TOTAL*',6X,F4.2,7X,F4.2,9X,F4.2)
0216              STOP
0217              END
```

STUDENT ANSWERS

ALUNO N. 1

QUESTION 1 **	9	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	12	0	0
QUESTION 6 **	12	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	6	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	5	1	0
QUESTION 15 **	10	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	6	0	0
QUESTION 18 **	2	6	0
QUESTION 19 **	5	0	0
QUESTION 20 **	2	0	0
QUESTION 21 **	12	0	0
QUESTION 22 **	10	0	0
QUESTION 23 **	7	3	0
QUESTION 24 **	12	0	0
QUESTION 25 **	5	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	2	0	0
QUESTION 31 **	10	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	12	0	0
QUESTION 38 **	9	0	0
QUESTION 39 **	12	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	10	0	0
QUESTION 43 **	10	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	4	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	6	0	0

STUDENT 1

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	1	0	2	0	2	*	1	2	2
RULE 2	0	0	0	2	3	*	0	2	3
RULE 3	0	0	0	0	5	*	0	0	5
RULE 4	0	0	0	2	3	*	0	2	3
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	2	0	0	0	3	*	2	0	3
RULE 7	2	0	1	0	2	*	2	1	2
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	2	0	0	0	3	*	2	0	3
RULE 10	1	0	2	0	2	*	1	2	2
TOTAL	11	0	5	4	30	*	11	9	30

STUDENT ANSWERS

ALUNO N. 2

QUESTION 1 **	1	0	0
QUESTION 2 **	11	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	3	7	0
QUESTION 5 **	3	0	0
QUESTION 6 **	4	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	2	0	0
QUESTION 9 **	1	0	0
QUESTION 10 **	2	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	5	0
QUESTION 15 **	10	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	2	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	3	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	1	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	1	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	3	0	0
QUESTION 29 **	3	0	0
QUESTION 30 **	5	0	0
QUESTION 31 **	9	0	0
QUESTION 32 **	4	0	0
QUESTION 33 **	1	0	0
QUESTION 34 **	3	0	0
QUESTION 35 **	1	0	0
QUESTION 36 **	3	7	0
QUESTION 37 **	3	0	0
QUESTION 38 **	1	0	0
QUESTION 39 **	1	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	11	0	0
QUESTION 42 **	6	0	0
QUESTION 43 **	7	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	1	0	0

STUDENT 2

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	3	0	1	0	1	*	3	1	1
RULE 3	1	0	0	1	3	*	1	1	3
RULE 4	0	0	2	2	1	*	0	4	1
RULE 5	3	0	0	0	2	*	3	0	2
RULE 6	0	0	0	0	5	*	0	0	5
RULE 7	2	0	0	1	2	*	2	1	2
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	1	0	0	1	3	*	1	1	3
TOTAL	13	0	6	5	26	*	13	11	26

STUDENT ANSWERS

ALUNO N. 3

QUESTION 1 **	1	0	0
QUESTION 2 **	0	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	5	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	7	0	0
QUESTION 9 **	1	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	7	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	0	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	1	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	7	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	12	0	0
QUESTION 25 **	1	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	6	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	2	0	0
QUESTION 31 **	6	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	3	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	11	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	3	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	1	0	0

STUDENT 3

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	0	0	0	2	3	*	0	2	3
RULE 3	0	0	1	0	4	*	0	1	4
RULE 4	1	0	0	2	2	*	1	2	2
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	1	0	1	0	3	*	1	1	3
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	1	0	0	1	3	*	1	1	3
TOTAL	11	0	5	5	29	*	11	10	29

STUDENT ANSWERS

ALUNO N. 4

QUESTION 1 **	5	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	7	0	0
QUESTION 4 **	1	0	0
QUESTION 5 **	5	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	6	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	8	0	0
QUESTION 12 **	1	5	0
QUESTION 13 **	3	7	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	2	6	0
QUESTION 18 **	6	0	0
QUESTION 19 **	5	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	7	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	5	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	0	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	1	2	0
QUESTION 31 **	5	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	10	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	7	0	0
QUESTION 40 **	1	5	0
QUESTION 41 **	11	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	8	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	6	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	5	0	0

STUDENT 4

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	1	0	0	1	3	*	1	1	3
RULE 2	0	0	0	2	3	*	0	2	3
RULE 3	2	0	1	0	2	*	2	1	2
RULE 4	1	1	1	1	1	*	1	3	1
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	2	0	2	0	1	*	2	2	1
RULE 8	4	0	0	0	1	*	4	0	1
RULE 9	3	0	0	0	2	*	3	0	2
RULE 10	2	0	2	0	1	*	2	2	1
TOTAL	21	1	6	4	18	*	21	11	18

STUDENT ANSWERS

ALUNO N. 5

QUESTION 1 **	1	0	0
QUESTION 2 **	11	7	0
QUESTION 3 **	3	0	0
QUESTION 4 **	1	0	0
QUESTION 5 **	7	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	10	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	5	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	1	3	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	9	0	0
QUESTION 20 **	2	6	0
QUESTION 21 **	11	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	11	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	1	0	0
QUESTION 28 **	11	0	0
QUESTION 29 **	3	0	0
QUESTION 30 **	12	0	0
QUESTION 31 **	10	0	0
QUESTION 32 **	2	5	0
QUESTION 33 **	2	0	0
QUESTION 34 **	10	0	0
QUESTION 35 **	1	0	0
QUESTION 36 **	7	3	0
QUESTION 37 **	11	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	3	0	0
QUESTION 41 **	12	0	0
QUESTION 42 **	11	7	0
QUESTION 43 **	6	0	0
QUESTION 44 **	6	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	5	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	6	0	0
QUESTION 50 **	10	0	0

STUDENT 5

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	0	1	1	0	3	*	0	2	3
RULE 3	2	0	0	0	3	*	2	0	3
RULE 4	1	0	0	1	3	*	1	1	3
RULE 5	1	0	0	0	4	*	1	0	4
RULE 6	2	0	0	0	3	*	2	0	3
RULE 7	1	0	1	1	2	*	1	2	2
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	2	0	0	0	3	*	2	0	3
RULE 10	3	0	1	1	0	*	3	2	0
TOTAL	14	1	6	3	26	*	14	10	26

STUDENT ANSWERS

ALUNO N. 6

QUESTION 1 **	1	0	0
QUESTION 2 **	11	7	0
QUESTION 3 **	3	0	0
QUESTION 4 **	1	0	0
QUESTION 5 **	7	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	10	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	5	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	3	8	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	9	0	0
QUESTION 20 **	2	6	0
QUESTION 21 **	11	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	11	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	1	0	0
QUESTION 28 **	11	0	0
QUESTION 29 **	3	0	0
QUESTION 30 **	12	0	0
QUESTION 31 **	10	0	0
QUESTION 32 **	2	5	0
QUESTION 33 **	2	0	0
QUESTION 34 **	10	0	0
QUESTION 35 **	1	0	0
QUESTION 36 **	7	3	0
QUESTION 37 **	11	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	12	0	0
QUESTION 41 **	11	7	0
QUESTION 42 **	6	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	6	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	9	5	0

STUDENT 6

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	0	1	1	0	3	*	0	2	3
RULE 3	2	0	0	0	3	*	2	0	3
RULE 4	1	0	2	1	1	*	1	3	1
RULE 5	1	0	0	0	4	*	1	0	4
RULE 6	2	0	0	0	3	*	2	0	3
RULE 7	3	0	1	1	0	*	3	2	0
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	2	0	0	0	3	*	2	0	3
RULE 10	3	0	1	1	0	*	3	2	0
TOTAL	16	1	8	3	22	*	16	12	22

STUDENT ANSWERS

ALUNO N. 7

QUESTION 1 **	1	0	0
QUESTION 2 **	11	0	0
QUESTION 3 **	7	0	0
QUESTION 4 **	1	0	0
QUESTION 5 **	7	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	6	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	8	0	0
QUESTION 12 **	0	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	0	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	5	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	11	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	3	0	0
QUESTION 24 **	0	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	6	0	0
QUESTION 28 **	11	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	0	0	0
QUESTION 31 **	10	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	5	0	0
QUESTION 41 **	11	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	6	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	6	0	0
QUESTION 50 **	5	0	0

STUDENT 7

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	1	1	1	*	2	2	1
RULE 2	0	0	0	2	3	*	0	2	3
RULE 3	2	0	1	0	2	*	2	1	2
RULE 4	1	0	1	2	1	*	1	3	1
RULE 5	4	0	0	0	1	*	4	0	1
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	1	0	2	0	2	*	1	2	2
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	4	0	0	0	1	*	4	0	1
RULE 10	3	0	2	0	0	*	3	2	0
TOTAL	20	0	7	5	18	*	20	12	18

STUDENT ANSWERS

ALUNO N. 8

QUESTION 1 **	1	0	0
QUESTION 2 **	11	0	0
QUESTION 3 **	7	0	0
QUESTION 4 **	1	0	0
QUESTION 5 **	7	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	6	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	8	0	0
QUESTION 12 **	0	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	0	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	5	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	11	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	3	0	0
QUESTION 24 **	0	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	6	0	0
QUESTION 28 **	11	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	0	0	0
QUESTION 31 **	10	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	5	0	0
QUESTION 41 **	11	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	6	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	6	0	0
QUESTION 50 **	5	0	0

STUDENT 8

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	1	1	1	*	2	2	1
RULE 2	0	0	0	2	3	*	0	2	3
RULE 3	2	0	1	0	2	*	2	1	2
RULE 4	1	0	1	2	1	*	1	3	1
RULE 5	4	0	0	0	1	*	4	0	1
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	1	0	2	0	2	*	1	2	2
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	4	0	0	0	1	*	4	0	1
RULE 10	3	0	2	0	0	*	3	2	0
TOTAL	20	0	7	5	18	*	20	12	18

STUDENT ANSWERS

ALUNO N. 9

QUESTION 1 **	1	0	0
QUESTION 2 **	11	0	0
QUESTION 3 **	3	7	0
QUESTION 4 **	1	5	0
QUESTION 5 **	1	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	2	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	2	0	0
QUESTION 11 **	4	12	0
QUESTION 12 **	5	0	0
QUESTION 13 **	3	7	12
QUESTION 14 **	1	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	5	1	0
QUESTION 17 **	2	10	0
QUESTION 18 **	2	0	0
QUESTION 19 **	5	9	1
QUESTION 20 **	2	0	0
QUESTION 21 **	7	3	0
QUESTION 22 **	10	2	0
QUESTION 23 **	4	8	0
QUESTION 24 **	7	0	0
QUESTION 25 **	5	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	2	6	0
QUESTION 28 **	7	0	0
QUESTION 29 **	3	0	0
QUESTION 30 **	12	0	0
QUESTION 31 **	6	0	0
QUESTION 32 **	2	6	0
QUESTION 33 **	6	0	0
QUESTION 34 **	10	0	0
QUESTION 35 **	9	5	0
QUESTION 36 **	7	3	0
QUESTION 37 **	7	3	0
QUESTION 38 **	5	0	0
QUESTION 39 **	7	3	0
QUESTION 40 **	1	5	0
QUESTION 41 **	7	0	0
QUESTION 42 **	2	6	10
QUESTION 43 **	2	6	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	5	1	0
QUESTION 47 **	2	6	0
QUESTION 48 **	6	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	5	0	0

STUDENT 9

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	5	0	0	0	0	*	5	0	0
RULE 2	3	1	1	0	0	*	3	2	0
RULE 3	4	0	0	0	1	*	4	0	1
RULE 4	0	1	0	0	4	*	0	1	4
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	3	0	0	0	2	*	3	0	2
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	3	0	0	0	2	*	3	0	2
RULE 10	3	0	1	0	1	*	3	1	1
TOTAL	28	2	2	0	18	*	28	4	18

STUDENT ANSWERS

ALUNO N. 10

QUESTION 1 **	1	0	0
QUESTION 2 **	11	0	0
QUESTION 3 **	3	7	0
QUESTION 4 **	1	5	0
QUESTION 5 **	1	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	2	0	0
QUESTION 9 **	0	0	0
QUESTION 10 **	2	0	0
QUESTION 11 **	4	12	0
QUESTION 12 **	5	0	0
QUESTION 13 **	3	7	12
QUESTION 14 **	1	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	5	1	0
QUESTION 17 **	2	10	0
QUESTION 18 **	2	0	0
QUESTION 19 **	5	9	1
QUESTION 20 **	2	0	0
QUESTION 21 **	7	3	0
QUESTION 22 **	10	2	0
QUESTION 23 **	4	8	0
QUESTION 24 **	7	0	0
QUESTION 25 **	6	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	2	6	0
QUESTION 28 **	7	0	0
QUESTION 29 **	3	0	0
QUESTION 30 **	12	0	0
QUESTION 31 **	6	0	0
QUESTION 32 **	2	6	0
QUESTION 33 **	6	0	0
QUESTION 34 **	10	0	0
QUESTION 35 **	9	5	0
QUESTION 36 **	7	3	0
QUESTION 37 **	7	3	0
QUESTION 38 **	5	0	0
QUESTION 39 **	7	3	0
QUESTION 40 **	1	5	0
QUESTION 41 **	7	0	0
QUESTION 42 **	2	6	10
QUESTION 43 **	2	6	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	5	1	0
QUESTION 47 **	2	6	0
QUESTION 48 **	6	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	5	0	0

STUDENT 10

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	5	0	0	0	0	*	5	0	0
RULE 2	3	1	1	0	0	*	3	2	0
RULE 3	4	0	0	0	1	*	4	0	1
RULE 4	0	1	0	0	4	*	0	1	4
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	3	0	0	0	2	*	3	0	2
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	3	0	0	0	2	*	3	0	2
RULE 10	2	0	1	0	2	*	2	1	2
TOTAL	27	2	2	0	19	*	27	4	19

STUDENT ANSWERS

ALUNO N. 11

QUESTION 1 **	1	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	1	5	0
QUESTION 5 **	7	0	0
QUESTION 6 **	12	0	0
QUESTION 7 **	1	5	0
QUESTION 8 **	6	2	0
QUESTION 9 **	1	5	0
QUESTION 10 **	3	7	0
QUESTION 11 **	4	8	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	12	0
QUESTION 14 **	1	5	0
QUESTION 15 **	2	0	0
QUESTION 16 **	0	0	0
QUESTION 17 **	2	6	0
QUESTION 18 **	6	2	0
QUESTION 19 **	1	0	0
QUESTION 20 **	2	6	0
QUESTION 21 **	7	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	4	0	0
QUESTION 25 **	12	0	0
QUESTION 26 **	12	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	11	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	12	7	0
QUESTION 31 **	2	6	0
QUESTION 32 **	2	0	0
QUESTION 33 **	2	6	0
QUESTION 34 **	6	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	3	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	7	0
QUESTION 40 **	1	5	0
QUESTION 41 **	11	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	1	5	0
QUESTION 45 **	1	5	0
QUESTION 46 **	11	0	0
QUESTION 47 **	0	0	0
QUESTION 48 **	10	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	1	5	0

STUDENT 11

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	1	0	1	0	3	*	1	1	3
RULE 2	0	0	1	1	3	*	0	2	3
RULE 3	0	0	1	0	4	*	0	1	4
RULE 4	1	0	0	1	3	*	1	1	3
RULE 5	0	0	0	0	5	*	0	0	5
RULE 6	1	0	0	0	4	*	1	0	4
RULE 7	0	0	2	0	3	*	0	2	3
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	0	0	0	0	5	*	0	0	5
TOTAL	4	0	5	2	34	*	4	7	39

STUDENT ANSWERS

ALUNO N. 12

QUESTION 1 **	1	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	3	7	0
QUESTION 4 **	1	5	0
QUESTION 5 **	4	0	0
QUESTION 6 **	12	0	0
QUESTION 7 **	1	5	0
QUESTION 8 **	6	2	0
QUESTION 9 **	1	5	0
QUESTION 10 **	3	7	0
QUESTION 11 **	4	8	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	12	0
QUESTION 14 **	1	5	0
QUESTION 15 **	2	0	0
QUESTION 16 **	0	0	0
QUESTION 17 **	2	6	0
QUESTION 18 **	6	2	0
QUESTION 19 **	1	0	0
QUESTION 20 **	2	6	0
QUESTION 21 **	7	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	4	0	0
QUESTION 25 **	12	0	0
QUESTION 26 **	11	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	11	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	12	7	0
QUESTION 31 **	2	6	0
QUESTION 32 **	2	0	0
QUESTION 33 **	2	6	0
QUESTION 34 **	6	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	3	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	7	0
QUESTION 40 **	1	5	0
QUESTION 41 **	11	0	0
QUESTION 42 **	0	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	1	5	0
QUESTION 46 **	11	0	0
QUESTION 47 **	0	0	0
QUESTION 48 **	0	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	1	5	0

STUDENT 12

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	0	0	3	*	2	0	3
RULE 2	0	0	1	1	3	*	0	2	3
RULE 3	0	0	1	0	4	*	0	1	4
RULE 4	1	0	0	0	4	*	1	0	4
RULE 5	0	0	0	0	5	*	0	0	5
RULE 6	1	0	0	0	4	*	1	0	4
RULE 7	1	0	2	0	2	*	1	2	2
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	0	0	0	0	5	*	0	0	5
TOTAL	6	0	4	1	39	*	6	5	39

STUDENT ANSWERS

ALUNO N. 13

QUESTION 1 **	1	5	0
QUESTION 2 **	0	0	0
QUESTION 3 **	3	7	0
QUESTION 4 **	1	5	0
QUESTION 5 **	1	5	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	5	9
QUESTION 8 **	2	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	2	6	0
QUESTION 11 **	4	8	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	1	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	1	6	0
QUESTION 19 **	5	0	0
QUESTION 20 **	0	0	0
QUESTION 21 **	12	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	9	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	3	7	0
QUESTION 30 **	3	0	0
QUESTION 31 **	2	0	0
QUESTION 32 **	2	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	3	7	0
QUESTION 37 **	3	7	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	5	0	0
QUESTION 41 **	11	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	1	0	0

STUDENT 13

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	1	0	1	0	3	*	1	1	3
RULE 2	3	0	0	0	2	*	3	0	2
RULE 3	1	1	0	0	3	*	1	1	3
RULE 4	1	0	0	3	1	*	1	3	1
RULE 5	1	0	0	0	4	*	1	0	4
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	1	0	2	0	2	*	1	2	2
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	1	0	0	0	4	*	1	0	4
RULE 10	3	0	1	1	0	*	3	2	0
TOTAL	15	1	4	4	26	*	15	9	26

STUDENT ANSWERS

ALUNO N. 14

QUESTION 1 **	9	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	12	0	0
QUESTION 6 **	0	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	6	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	0	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	5	1	0
QUESTION 15 **	2	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	6	0	0
QUESTION 18 **	2	6	0
QUESTION 19 **	5	0	0
QUESTION 20 **	2	0	0
QUESTION 21 **	11	0	0
QUESTION 22 **	10	0	0
QUESTION 23 **	7	3	0
QUESTION 24 **	12	0	0
QUESTION 25 **	5	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	2	0	0
QUESTION 31 **	10	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	0	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	11	0	0
QUESTION 38 **	9	0	0
QUESTION 39 **	11	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	10	0	0
QUESTION 43 **	10	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	4	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	10	2	0
QUESTION 50 **	6	0	0

STUDENT 14

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	1	0	2	0	2	*	1	2	2
RULE 2	0	0	0	2	3	*	0	2	3
RULE 3	0	0	0	0	5	*	0	0	5
RULE 4	0	0	0	2	3	*	0	2	3
RULE 5	1	0	0	0	4	*	1	0	4
RULE 6	2	0	0	0	3	*	2	0	3
RULE 7	1	0	1	0	3	*	1	1	3
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	2	0	0	0	3	*	2	0	3
RULE 10	1	0	2	0	2	*	1	2	2
TOTAL	9	0	5	4	32	*	9	9	32

STUDENT ANSWERS

ALUNO N. 15

QUESTION 1 **	1	4	0
QUESTION 2 **	11	0	0
QUESTION 3 **	3	7	0
QUESTION 4 **	1	0	0
QUESTION 5 **	3	0	0
QUESTION 6 **	0	0	0
QUESTION 7 **	1	8	0
QUESTION 8 **	2	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	5	0	0
QUESTION 11 **	4	12	0
QUESTION 12 **	1	5	0
QUESTION 13 **	7	3	0
QUESTION 14 **	1	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	5	1	0
QUESTION 17 **	3	11	0
QUESTION 18 **	2	0	0
QUESTION 19 **	5	0	0
QUESTION 20 **	6	2	0
QUESTION 21 **	7	0	0
QUESTION 22 **	2	10	0
QUESTION 23 **	4	8	0
QUESTION 24 **	5	0	0
QUESTION 25 **	9	12	0
QUESTION 26 **	7	0	0
QUESTION 27 **	6	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	3	0	0
QUESTION 30 **	12	0	0
QUESTION 31 **	6	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	3	0	0
QUESTION 35 **	5	1	0
QUESTION 36 **	3	7	0
QUESTION 37 **	7	3	0
QUESTION 38 **	5	0	0
QUESTION 39 **	7	3	0
QUESTION 40 **	5	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	2	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	6	2	0
QUESTION 48 **	6	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	5	0	0

STUDENT 15

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	0	0	3	*	2	0	3
RULE 2	3	0	1	0	1	*	3	1	1
RULE 3	4	0	0	0	1	*	4	0	1
RULE 4	2	0	0	1	2	*	2	1	2
RULE 5	4	0	0	0	1	*	4	0	1
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	3	0	0	0	2	*	3	0	2
RULE 8	3	0	0	0	2	*	3	0	2
RULE 9	4	0	0	0	1	*	4	0	1
RULE 10	3	0	2	0	0	*	3	2	0
TOTAL	31	0	3	1	15	*	31	4	15

STUDENT ANSWERS

ALUNO N. 16

QUESTION 1 **	1	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	1	0	0
QUESTION 5 **	5	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	2	0	0
QUESTION 9 **	1	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	0	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	9	0	0
QUESTION 20 **	0	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	2	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	1	0	0
QUESTION 25 **	5	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	6	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	3	0	0
QUESTION 30 **	3	0	0
QUESTION 31 **	2	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	3	0	0
QUESTION 35 **	1	0	0
QUESTION 36 **	3	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	1	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	5	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	1	0	0
QUESTION 45 **	1	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	1	0	0

STUDENT 16

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	1	0	2	0	2	*	1	2	2
RULE 3	2	0	1	0	2	*	2	1	2
RULE 4	1	0	0	3	1	*	1	3	1
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	0	0	0	2	3	*	0	2	3
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	2	0	0	0	3	*	2	0	3
RULE 10	0	0	1	1	3	*	0	2	3
TOTAL	13	0	7	6	24	*	13	13	24

STUDENT ANSWERS

ALUNO N. 17

QUESTION 1 **	1	0	0
QUESTION 2 **	11	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	1	0	0
QUESTION 5 **	7	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	10	0	0
QUESTION 9 **	1	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	9	0	0
QUESTION 13 **	1	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	3	0	0
QUESTION 18 **	11	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	11	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	11	0	0
QUESTION 23 **	1	0	0
QUESTION 24 **	5	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	0	0	0
QUESTION 28 **	11	0	0
QUESTION 29 **	2	0	0
QUESTION 30 **	12	0	0
QUESTION 31 **	1	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	10	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	11	0	0
QUESTION 37 **	3	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	11	0	0
QUESTION 40 **	5	0	0
QUESTION 41 **	11	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	1	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	10	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	9	0	0

STUDENT 17

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	2	0	1	*	2	2	1
RULE 2	0	0	0	0	5	*	0	0	5
RULE 3	2	0	0	1	2	*	2	1	2
RULE 4	1	0	0	2	2	*	1	2	2
RULE 5	3	0	0	0	2	*	3	0	2
RULE 6	2	0	0	0	3	*	2	0	3
RULE 7	2	0	1	0	2	*	2	1	2
RULE 8	2	0	0	0	3	*	2	0	3
RULE 9	2	0	0	0	3	*	2	0	3
RULE 10	0	0	0	0	5	*	0	0	5
TOTAL	16	0	3	3	28	*	16	6	28

STUDENT ANSWERS

ALUNO N. 18

QUESTION 1 **	1	0	0
QUESTION 2 **	0	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	3	0	0
QUESTION 5 **	7	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	2	0	0
QUESTION 9 **	0	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	0	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	5	0
QUESTION 15 **	10	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	2	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	3	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	1	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	1	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	3	0	0
QUESTION 29 **	3	0	0
QUESTION 30 **	1	3	0
QUESTION 31 **	9	0	0
QUESTION 32 **	4	0	0
QUESTION 33 **	1	0	0
QUESTION 34 **	3	0	0
QUESTION 35 **	1	0	0
QUESTION 36 **	3	7	0
QUESTION 37 **	3	0	0
QUESTION 38 **	1	0	0
QUESTION 39 **	1	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	12	0	0
QUESTION 42 **	10	0	0
QUESTION 43 **	7	0	0
QUESTION 44 **	1	0	0
QUESTION 45 **	1	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	1	0	0

STUDENT 18

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	3	0	1	0	1	*	3	1	1
RULE 3	0	0	0	1	4	*	0	1	4
RULE 4	0	0	0	2	3	*	0	2	3
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	1	0	0	0	4	*	1	0	4
RULE 7	1	0	0	1	3	*	1	1	3
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	0	0	0	1	4	*	0	1	4
TOTAL	10	0	4	5	31	*	10	9	31

STUDENT ANSWERS

ALUNO N. 19

QUESTION 1 **	1	0	0
QUESTION 2 **	11	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	1	0	0
QUESTION 5 **	5	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	10	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	2	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	3	0	0
QUESTION 13 **	7	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	1	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	10	0	0
QUESTION 19 **	9	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	7	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	5	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	6	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	3	0	0
QUESTION 30 **	1	0	0
QUESTION 31 **	10	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	7	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	6	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	6	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	5	0	0

STUDENT 19

	C	CI	PC	PCI	&	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	0	0	1	1	3	*	0	2	3
RULE 3	3	0	1	0	1	*	3	1	1
RULE 4	1	0	3	1	0	*	1	4	0
RULE 5	5	0	0	0	0	*	5	0	0
RULE 6	5	0	0	0	0	*	5	0	0
RULE 7	2	0	2	0	1	*	2	2	1
RULE 8	3	0	0	0	2	*	3	0	2
RULE 9	2	0	0	0	3	*	2	0	3
RULE 10	3	0	1	1	0	*	3	2	0
TOTAL	26	0	11	3	10	*	26	14	10

STUDENT ANSWERS

ALUNO N. 20

QUESTION 1 **	1	3	0
QUESTION 2 **	3	0	0
QUESTION 3 **	1	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	5	7	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	4	0
QUESTION 8 **	1	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	1	0	0
QUESTION 14 **	5	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	0	0	0
QUESTION 17 **	3	0	0
QUESTION 18 **	7	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	7	0	0
QUESTION 23 **	5	0	0
QUESTION 24 **	0	0	0
QUESTION 25 **	1	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	1	0	0
QUESTION 28 **	3	0	0
QUESTION 29 **	5	7	0
QUESTION 30 **	1	0	0
QUESTION 31 **	7	0	0
QUESTION 32 **	2	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	3	0	0
QUESTION 35 **	7	0	0
QUESTION 36 **	0	0	0
QUESTION 37 **	5	7	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	0	0	0
QUESTION 41 **	3	0	0
QUESTION 42 **	6	0	0
QUESTION 43 **	5	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	0	0	0
QUESTION 46 **	3	0	0
QUESTION 47 **	0	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	1	0	0

STUDENT 20

	C	CI	PC	PCI	E	* *	CORRECT	ACCEPTABLE	WRONG
RULE 1	0	0	1	0	4	*	0	1	4
RULE 2	0	0	0	0	5	*	0	0	5
RULE 3	0	0	0	0	5	*	0	0	5
RULE 4	0	0	1	1	3	*	0	2	3
RULE 5	0	0	0	0	5	*	0	0	5
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	2	0	0	0	3	*	2	0	3
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	1	0	0	1	3	*	1	1	3
TOTAL	6	0	2	2	40	*	6	4	40

STUDENT ANSWERS

ALUNO N. 21

QUESTION 1 **	1	0	0
QUESTION 2 **	12	0	0
QUESTION 3 **	3	7	0
QUESTION 4 **	5	1	0
QUESTION 5 **	1	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	9	0
QUESTION 8 **	6	2	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	12	0
QUESTION 12 **	5	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	5	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	7	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	8	0	0
QUESTION 24 **	9	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	6	7	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	3	0
QUESTION 30 **	12	0	0
QUESTION 31 **	6	0	0
QUESTION 32 **	6	2	0
QUESTION 33 **	6	0	0
QUESTION 34 **	3	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	3	0
QUESTION 37 **	7	3	0
QUESTION 38 **	5	0	0
QUESTION 39 **	7	0	0
QUESTION 40 **	5	0	0
QUESTION 41 **	7	3	0
QUESTION 42 **	6	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	2	6	0
QUESTION 48 **	6	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	5	0	0

STUDENT 21

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	3	0	1	0	1	*	3	1	1
RULE 2	1	2	0	0	2	*	1	2	2
RULE 3	2	0	0	1	2	*	2	1	2
RULE 4	1	1	1	1	1	*	1	3	1
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	2	0	2	0	1	*	2	2	1
RULE 8	5	0	0	0	0	*	5	0	0
RULE 9	5	0	0	0	0	*	5	0	0
RULE 10	3	0	2	0	0	*	3	2	0
TOTAL	28	3	6	2	11	*	28	11	11

STUDENT ANSWERS

ALUNO N. 22

QUESTION 1 **	1	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	5	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	6	0	0
QUESTION 9 **	1	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	5	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	1	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	2	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	7	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	1	0	0
QUESTION 25 **	1	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	1	0	0
QUESTION 31 **	2	0	0
QUESTION 32 **	2	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	1	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	1	0	0
QUESTION 44 **	1	0	0
QUESTION 45 **	1	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	1	0	0

STUDENT 22

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	0	0	0	2	3	*	0	2	3
RULE 3	0	0	1	0	4	*	0	1	4
RULE 4	0	0	0	4	1	*	0	4	1
RULE 5	0	0	0	0	5	*	0	0	5
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	0	0	1	0	4	*	0	1	4
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	0	0	0	1	4	*	0	1	4
TOTAL	6	0	5	7	32	*	6	12	32

STUDENT ANSWERS

ALUNO N. 23

QUESTION 1 **	1	C	0
QUESTION 2 **	11	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	5	1	0
QUESTION 5 **	5	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	6	0	0
QUESTION 9 **	1	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	1	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	2	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	7	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	1	0	0
QUESTION 25 **	1	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	1	0	0
QUESTION 31 **	2	0	0
QUESTION 32 **	2	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	3	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	1	0	0
QUESTION 45 **	1	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	1	0	0

STUDENT 23

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	0	0	0	2	3	*	0	2	3
RULE 3	1	0	1	0	3	*	1	1	3
RULE 4	1	0	0	4	0	*	1	4	0
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	0	0	1	0	4	*	0	1	4
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	0	0	0	1	4	*	0	1	4
TOTAL	10	0	5	7	28	*	10	12	28

STUDENT ANSWERS

ALUNO N. 24

QUESTION 1 **	1	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	5	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	2	0	0
QUESTION 9 **	1	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	1	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	2	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	2	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	1	0	0
QUESTION 25 **	1	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	1	0	0
QUESTION 31 **	2	0	0
QUESTION 32 **	2	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	1	0	0
QUESTION 45 **	1	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	2	9	0
QUESTION 48 **	2	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	1	0	0

STUDENT 24

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	2	0	0	2	1	*	2	2	1
RULE 3	1	0	1	0	3	*	1	1	3
RULE 4	1	0	0	3	1	*	1	3	1
RULE 5	0	0	0	0	5	*	0	0	5
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	0	0	2	0	3	*	0	2	3
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	0	0	0	1	4	*	0	1	4
TOTAL	10	0	6	6	28	*	10	12	28

STUDENT ANSWERS

ALUNO N. 25

QUESTION 1 **	1	3	0
QUESTION 2 **	3	0	0
QUESTION 3 **	1	0	0
QUESTION 4 **	3	0	0
QUESTION 5 **	5	0	0
QUESTION 6 **	7	0	0
QUESTION 7 **	8	0	0
QUESTION 8 **	4	0	0
QUESTION 9 **	1	0	0
QUESTION 10 **	4	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	1	0	0
QUESTION 14 **	5	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	3	0	0
QUESTION 18 **	7	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	7	0	0
QUESTION 23 **	5	0	0
QUESTION 24 **	0	0	0
QUESTION 25 **	1	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	1	0	0
QUESTION 28 **	3	0	0
QUESTION 29 **	5	0	0
QUESTION 30 **	1	0	0
QUESTION 31 **	0	0	0
QUESTION 32 **	2	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	3	0	0
QUESTION 35 **	7	0	0
QUESTION 36 **	5	0	0
QUESTION 37 **	5	7	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	0	0	0
QUESTION 41 **	3	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	5	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	0	0	0
QUESTION 46 **	3	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	1	0	0
QUESTION 50 **	1	0	0

STUDENT 25

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	0	0	1	0	4	*	0	1	4
RULE 2	0	0	0	0	5	*	0	0	5
RULE 3	0	0	0	0	5	*	0	0	5
RULE 4	0	0	0	3	2	*	0	3	2
RULE 5	1	0	0	0	4	*	1	0	4
RULE 6	2	0	0	0	3	*	2	0	3
RULE 7	1	0	0	0	4	*	1	0	4
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	0	0	0	1	4	*	0	1	4
TOTAL	5	0	1	4	40	*	5	5	40

STUDENT ANSWERS

ALUNO N. 26

QUESTION 1 **	1	0	0
QUESTION 2 **	12	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	1	0	0
QUESTION 5 **	5	0	0
QUESTION 6 **	12	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	10	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	3	0	0
QUESTION 13 **	7	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	1	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	10	0	0
QUESTION 19 **	9	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	7	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	5	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	6	0	0
QUESTION 28 **	3	0	0
QUESTION 29 **	3	0	0
QUESTION 30 **	1	0	0
QUESTION 31 **	10	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	1	0	0
QUESTION 39 **	7	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	6	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	7	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	6	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	5	0	0

STUDENT 26

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	0	0	1	1	3	*	0	2	3
RULE 3	2	0	1	0	2	*	2	1	2
RULE 4	1	0	3	1	0	*	1	4	0
RULE 5	4	0	0	0	1	*	4	0	1
RULE 6	2	0	0	0	3	*	2	0	3
RULE 7	2	0	2	0	1	*	2	2	1
RULE 8	3	0	0	0	2	*	3	0	2
RULE 9	2	0	0	0	3	*	2	0	3
RULE 10	2	0	1	1	1	*	2	2	1
TOTAL	20	0	11	3	16	*	20	14	16

STUDENT ANSWERS

ALUNO N. 27

QUESTION 1 **	1	5	0
QUESTION 2 **	3	7	0
QUESTION 3 **	4	7	0
QUESTION 4 **	1	5	0
QUESTION 5 **	5	11	0
QUESTION 6 **	8	12	0
QUESTION 7 **	1	5	0
QUESTION 8 **	10	0	0
QUESTION 9 **	4	8	0
QUESTION 10 **	2	6	0
QUESTION 11 **	4	8	0
QUESTION 12 **	1	5	0
QUESTION 13 **	3	7	0
QUESTION 14 **	1	5	0
QUESTION 15 **	2	0	0
QUESTION 16 **	0	0	0
QUESTION 17 **	2	6	0
QUESTION 18 **	5	10	0
QUESTION 19 **	1	5	0
QUESTION 20 **	2	6	0
QUESTION 21 **	3	7	0
QUESTION 22 **	2	6	0
QUESTION 23 **	3	7	0
QUESTION 24 **	0	0	0
QUESTION 25 **	3	7	0
QUESTION 26 **	2	6	0
QUESTION 27 **	3	7	0
QUESTION 28 **	3	7	0
QUESTION 29 **	1	5	0
QUESTION 30 **	0	0	0
QUESTION 31 **	2	6	0
QUESTION 32 **	2	6	0
QUESTION 33 **	3	7	0
QUESTION 34 **	5	9	0
QUESTION 35 **	3	7	0
QUESTION 36 **	1	5	0
QUESTION 37 **	5	9	0
QUESTION 38 **	2	6	0
QUESTION 39 **	1	5	0
QUESTION 40 **	11	0	0
QUESTION 41 **	2	6	0
QUESTION 42 **	0	0	0
QUESTION 43 **	1	0	0
QUESTION 44 **	1	0	0
QUESTION 45 **	3	7	0
QUESTION 46 **	2	6	0
QUESTION 47 **	2	6	0
QUESTION 48 **	2	6	0
QUESTION 49 **	2	6	0
QUESTION 50 **	5	9	0

STUDENT 27

	C	CI	PC	PCT	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	0	0	0	0	5	*	0	0	5
RULE 2	0	0	0	0	5	*	0	0	5
RULE 3	0	0	0	0	5	*	0	0	5
RULE 4	0	2	0	0	3	*	0	2	3
RULE 5	0	0	0	0	5	*	0	0	5
RULE 6	0	0	0	0	5	*	0	0	5
RULE 7	0	1	0	0	4	*	0	1	4
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	0	1	0	0	4	*	0	1	4
TOTAL	0	4	0	0	46	*	0	4	46

STUDENT ANSWERS

ALUNO N. 28

QUESTION 1 **	1	0	0
QUESTION 2 **	0	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	1	0	0
QUESTION 5 **	5	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	6	0	0
QUESTION 9 **	0	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	1	0	0
QUESTION 17 **	3	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	1	0	0
QUESTION 25 **	1	0	0
QUESTION 26 **	0	0	0
QUESTION 27 **	6	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	0	0	0
QUESTION 31 **	10	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	5	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	0	0	0
QUESTION 44 **	1	0	0
QUESTION 45 **	1	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	0	0	0
QUESTION 50 **	2	0	0

STUDENT 29

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	1	0	0	1	3	*	1	1	3
RULE 3	1	0	1	0	3	*	1	1	3
RULE 4	2	0	0	3	0	*	2	3	0
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	1	0	2	0	2	*	1	2	2
RULE 8	4	0	0	0	1	*	4	0	1
RULE 9	4	0	0	0	1	*	4	0	1
RULE 10	1	0	0	1	3	*	1	1	3
TOTAL	22	0	6	5	17	*	22	11	17

STUDENT ANSWERS

ALUNO N. 30

QUESTION 1 **	1	0	0
QUESTION 2 **	11	0	0
QUESTION 3 **	3	7	0
QUESTION 4 **	1	2	3
QUESTION 5 **	1	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	2	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	2	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	5	0	0
QUESTION 13 **	3	7	0
QUESTION 14 **	1	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	10	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	7	0	0
QUESTION 22 **	7	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	5	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	3	7	0
QUESTION 27 **	6	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	3	0
QUESTION 30 **	5	0	0
QUESTION 31 **	2	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	6	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	3	7	0
QUESTION 37 **	7	3	0
QUESTION 38 **	2	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	5	0	0
QUESTION 41 **	11	0	0
QUESTION 42 **	6	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	1	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	5	0	0

STUDENT 30

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	3	0	2	0	0	*	3	2	0
RULE 2	3	1	0	0	1	*	3	1	1
RULE 3	3	0	0	0	2	*	3	0	2
RULE 4	1	1	2	0	1	*	1	3	1
RULE 5	5	0	0	0	0	*	5	0	0
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	1	0	1	0	3	*	1	1	3
RULE 8	3	0	0	0	2	*	3	0	2
RULE 9	4	0	0	0	1	*	4	0	1
RULE 10	2	0	1	0	2	*	2	1	2
TOTAL	28	2	6	0	14	*	28	8	14

STUDENT 30

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	3	0	2	0	0	*	3	2	0
RULE 2	3	1	0	0	1	*	3	1	1
RULE 3	3	0	0	0	2	*	3	0	2
RULE 4	1	1	2	0	1	*	1	3	1
RULE 5	5	0	0	0	0	*	5	0	0
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	1	0	1	0	3	*	1	1	3
RULE 8	3	0	0	0	2	*	3	0	2
RULE 9	4	0	0	0	1	*	4	0	1
RULE 10	2	0	1	0	2	*	2	1	2
TOTAL	28	2	6	0	14	*	28	8	14

STUDENT ANSWERS

ALUNO N. 31

QUESTION 1 **	1	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	7	0	0
QUESTION 6 **	0	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	10	0	0
QUESTION 9 **	5	1	0
QUESTION 10 **	6	10	0
QUESTION 11 **	4	8	0
QUESTION 12 **	1	5	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	10	0
QUESTION 16 **	1	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	5	0	0
QUESTION 20 **	6	10	0
QUESTION 21 **	3	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	1	0	0
QUESTION 25 **	6	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	12	0	0
QUESTION 30 **	5	0	0
QUESTION 31 **	2	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	4	0	0
QUESTION 35 **	8	0	0
QUESTION 36 **	9	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	4	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	10	0	0
QUESTION 43 **	9	6	0
QUESTION 44 **	0	0	0
QUESTION 45 **	0	0	0
QUESTION 46 **	9	0	0
QUESTION 47 **	1	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	5	0	0

STUDENT 31

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	2	0	1	*	2	2	1
RULE 2	0	0	0	0	5	*	0	0	5
RULE 3	1	0	1	0	3	*	1	1	3
RULE 4	0	0	1	1	3	*	0	2	3
RULE 5	1	0	0	0	4	*	1	0	4
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	1	0	1	0	3	*	1	1	3
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	1	0	0	0	4	*	1	0	4
RULE 10	1	0	1	1	2	*	1	2	2
TOTAL	10	0	6	2	32	*	10	8	32

STUDENT ANSWERS

ALUNO N. 32

QUESTION 1 **	9	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	12	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	6	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	2	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	5	1	0
QUESTION 15 **	2	10	0
QUESTION 16 **	5	0	0
QUESTION 17 **	6	0	0
QUESTION 18 **	2	6	0
QUESTION 19 **	5	0	0
QUESTION 20 **	2	0	0
QUESTION 21 **	12	0	0
QUESTION 22 **	11	0	0
QUESTION 23 **	7	3	0
QUESTION 24 **	12	0	0
QUESTION 25 **	5	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	2	0	0
QUESTION 31 **	11	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	12	0	0
QUESTION 38 **	9	0	0
QUESTION 39 **	12	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	6	0	0
QUESTION 43 **	11	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	4	5	0
QUESTION 46 **	5	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	6	0	0

STUDENT 32

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	1	0	2	0	2	*	1	2	2
RULE 2	0	0	0	2	3	*	0	2	3
RULE 3	0	0	0	0	5	*	0	0	5
RULE 4	0	0	1	2	2	*	0	3	2
RULE 5	1	0	0	0	4	*	1	0	4
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	2	0	1	0	2	*	2	1	2
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	2	0	0	0	3	*	2	0	3
RULE 10	1	0	2	0	2	*	1	2	2
TOTAL	11	0	6	4	29	*	11	10	29

STUDENT ANSWERS

ALUNO N. 33

QUESTION 1 **	11	0	0
QUESTION 2 **	6	0	0
QUESTION 3 **	7	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	0	0	0
QUESTION 6 **	9	3	0
QUESTION 7 **	6	0	0
QUESTION 8 **	7	0	0
QUESTION 9 **	7	0	0
QUESTION 10 **	1	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	5	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	10	0	0
QUESTION 19 **	5	0	0
QUESTION 20 **	4	0	0
QUESTION 21 **	11	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	5	0	0
QUESTION 25 **	0	0	0
QUESTION 26 **	7	3	0
QUESTION 27 **	6	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	0	0
QUESTION 30 **	1	0	0
QUESTION 31 **	10	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	10	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	8	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	7	0	0
QUESTION 40 **	5	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	5	0	0

STUDENT 33

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	0	0	2	1	2	*	0	3	2
RULE 2	0	0	0	2	3	*	0	2	3
RULE 3	1	0	0	0	4	*	1	0	4
RULE 4	1	0	0	4	0	*	1	4	0
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	3	0	0	0	2	*	3	0	2
RULE 7	3	0	2	0	0	*	3	2	0
RULE 8	3	0	0	0	2	*	3	0	2
RULE 9	5	0	0	0	0	*	5	0	0
RULE 10	1	0	2	0	2	*	1	2	2
TOTAL	19	0	6	7	18	*	19	13	18

STUCENT ANSWERS

ALUNO N. 34

QUESTION 1 **	1	5	0
CUESTION 2 **	0	0	0
QUESTION 3 **	3	7	0
CUESTION 4 **	1	5	0
QUESTION 5 **	1	5	0
CUESTION 6 **	8	0	0
QUESTION 7 **	1	5	0
QUESTION 8 **	2	0	0
QUESTION 9 **	5	0	0
CUESTION 10 **	5	6	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	5	0	0
CUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	5	0	0
QUESTION 20 **	6	0	0
CUESTION 21 **	11	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	9	0	0
CUESTION 25 **	1	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	7	0	0
CUESTION 29 **	7	0	0
QUESTION 30 **	10	0	0
QUESTION 31 **	10	0	0
QUESTION 32 **	2	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	2	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	0	0
CUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	11	0	0
QUESTION 40 **	5	0	0
CUESTION 41 **	11	0	0
QUESTION 42 **	0	0	0
QUESTION 43 **	0	0	0
QUESTION 44 **	0	0	0
CUESTION 45 **	0	0	0
QUESTION 46 **	0	0	0
QUESTION 47 **	0	0	0
QUESTION 48 **	0	0	0
QUESTION 49 **	0	0	0
QUESTION 50 **	0	0	0

STUDENT 34

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	1	0	2	0	2	*	1	2	2
RULE 2	1	0	0	2	2	*	1	2	2
RULE 3	1	0	1	0	3	*	1	1	3
RULE 4	0	0	0	1	4	*	0	1	4
RULE 5	0	0	0	0	5	*	0	0	5
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	0	0	2	0	3	*	0	2	3
RULE 8	1	0	0	0	4	*	1	0	4
RULE 9	1	0	0	0	4	*	1	0	4
RULE 10	2	0	1	0	2	*	2	1	2
TOTAL	11	0	6	3	30	*	11	9	30

STUDENT ANSWERS

ALUNO N. 35

QUESTION 1 **	1	0	0
QUESTION 2 **	0	0	0
QUESTION 3 **	3	7	0
QUESTION 4 **	5	1	0
QUESTION 5 **	1	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	9	0
QUESTION 8 **	6	2	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	12	0
QUESTION 12 **	5	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	6	0	0
QUESTION 18 **	2	6	0
QUESTION 19 **	5	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	7	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	8	0	0
QUESTION 24 **	5	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	6	2	0
QUESTION 28 **	7	0	0
QUESTION 29 **	7	3	0
QUESTION 30 **	1	3	0
QUESTION 31 **	6	0	0
QUESTION 32 **	6	2	0
QUESTION 33 **	6	0	0
QUESTION 34 **	3	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	7	3	0
QUESTION 37 **	7	3	0
QUESTION 38 **	5	0	0
QUESTION 39 **	7	0	0
QUESTION 40 **	5	0	0
QUESTION 41 **	7	3	0
QUESTION 42 **	6	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	5	0	0
QUESTION 47 **	2	6	0
QUESTION 48 **	6	0	0
QUESTION 49 **	3	0	0
QUESTION 50 **	5	0	0

STUDENT 35

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	3	0	0	0	2	*	3	0	2
RULE 2	1	2	0	0	2	*	1	2	2
RULE 3	2	0	0	1	2	*	2	1	2
RULE 4	1	1	1	1	1	*	1	3	1
RULE 5	2	0	0	0	3	*	2	0	3
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	1	0	2	0	2	*	1	2	2
RULE 8	5	0	0	0	0	*	5	0	0
RULE 9	5	0	0	0	0	*	5	0	0
RULE 10	3	0	2	0	0	*	3	2	0
TOTAL	27	3	5	2	13	*	27	10	13

STUDENT ANSWERS

ALUNO N. 36

QUESTION 1 **	1	3	0
QUESTION 2 **	3	0	0
QUESTION 3 **	1	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	5	7	0
QUESTION 6 **	12	0	0
QUESTION 7 **	4	0	0
QUESTION 8 **	1	0	0
QUESTION 9 **	4	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	0	0
QUESTION 12 **	1	0	0
QUESTION 13 **	1	0	0
QUESTION 14 **	5	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	0	0	0
QUESTION 17 **	3	0	0
QUESTION 18 **	7	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	7	0	0
QUESTION 23 **	5	0	0
QUESTION 24 **	0	0	0
QUESTION 25 **	1	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	1	0	0
QUESTION 28 **	3	0	0
QUESTION 29 **	5	0	0
QUESTION 30 **	1	0	0
QUESTION 31 **	0	0	0
QUESTION 32 **	2	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	3	0	0
QUESTION 35 **	7	0	0
QUESTION 36 **	5	0	0
QUESTION 37 **	5	7	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	0	0	0
QUESTION 41 **	3	0	0
QUESTION 42 **	6	0	0
QUESTION 43 **	5	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	0	0	0
QUESTION 46 **	3	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	1	0	0

STUDENT 36

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	0	0	1	0	4	*	0	1	4
RULE 2	0	0	0	0	5	*	0	0	5
RULE 3	0	0	0	0	5	*	0	0	5
RULE 4	0	0	1	2	2	*	0	3	2
RULE 5	1	0	0	0	4	*	1	0	4
RULE 6	2	0	0	0	3	*	2	0	3
RULE 7	2	0	0	0	3	*	2	0	3
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	0	0	0	0	5	*	C	0	5
RULE 10	0	0	0	1	4	*	0	1	4
TOTAL	5	0	2	3	40	*	5	5	40

STUDENT ANSWERS

ALUNO N. 37

QUESTION 1 **	1	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	7	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	10	0	0
QUESTION 9 **	0	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	8	0
QUESTION 12 **	1	5	0
QUESTION 13 **	1	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	10	0	0
QUESTION 16 **	1	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	5	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	7	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	1	0	0
QUESTION 25 **	1	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	2	6	0
QUESTION 28 **	7	0	0
QUESTION 29 **	11	0	0
QUESTION 30 **	5	0	0
QUESTION 31 **	2	0	0
QUESTION 32 **	2	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	4	8	0
QUESTION 35 **	9	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	11	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	0	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	9	0	0
QUESTION 47 **	1	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	10	0	0
QUESTION 50 **	5	0	0

STUDENT 37

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	2	0	1	*	2	2	1
RULE 2	0	0	0	1	4	*	0	1	4
RULE 3	1	0	1	0	3	*	1	1	3
RULE 4	1	0	1	1	2	*	1	2	2
RULE 5	1	0	0	0	4	*	1	0	4
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	1	0	0	0	4	*	1	0	4
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	1	0	0	0	4	*	1	0	4
RULE 10	2	0	1	1	1	*	2	2	1
TOTAL	13	0	5	3	29	*	13	8	29

STUDENT ANSWERS

ALUNO N. 38

QUESTION 1 **	1	0	0
QUESTION 2 **	3	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	7	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	10	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	6	0	0
QUESTION 11 **	4	8	0
QUESTION 12 **	1	5	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	0	0
QUESTION 15 **	2	0	0
QUESTION 16 **	1	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	5	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	3	0	0
QUESTION 22 **	6	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	1	0	0
QUESTION 25 **	1	0	0
QUESTION 26 **	7	0	0
QUESTION 27 **	2	6	0
QUESTION 28 **	7	0	0
QUESTION 29 **	10	0	0
QUESTION 30 **	5	0	0
QUESTION 31 **	2	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	2	0	0
QUESTION 34 **	4	8	0
QUESTION 35 **	9	0	0
QUESTION 36 **	7	0	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	3	0	0
QUESTION 40 **	1	0	0
QUESTION 41 **	7	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	9	0	0
QUESTION 47 **	1	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	5	0	0

STUDENT 38

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	2	0	1	*	2	2	1
RULE 2	0	0	0	1	4	*	0	1	4
RULE 3	1	0	1	0	3	*	1	1	3
RULE 4	1	0	1	2	1	*	1	3	1
RULE 5	1	0	0	0	4	*	1	0	4
RULE 6	5	0	0	0	0	*	5	0	0
RULE 7	1	0	1	0	3	*	1	1	3
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	1	0	0	0	4	*	1	0	4
RULE 10	3	0	1	1	0	*	3	2	0
TOTAL	15	0	6	4	25	*	15	10	25

STUDENT ANSWERS

ALUNO N. 39

QUESTION 1 **	1	0	0
QUESTION 2 **	0	0	0
QUESTION 3 **	3	0	0
QUESTION 4 **	5	0	0
QUESTION 5 **	7	0	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	10	0	0
QUESTION 9 **	5	0	0
QUESTION 10 **	2	6	0
QUESTION 11 **	4	0	0
QUESTION 12 **	5	0	0
QUESTION 13 **	3	0	0
QUESTION 14 **	1	5	0
QUESTION 15 **	10	0	0
QUESTION 16 **	5	0	0
QUESTION 17 **	2	0	0
QUESTION 18 **	6	0	0
QUESTION 19 **	1	0	0
QUESTION 20 **	6	0	0
QUESTION 21 **	7	0	0
QUESTION 22 **	0	0	0
QUESTION 23 **	7	0	0
QUESTION 24 **	0	0	0
QUESTION 25 **	9	0	0
QUESTION 26 **	3	0	0
QUESTION 27 **	2	0	0
QUESTION 28 **	7	0	0
QUESTION 29 **	5	0	0
QUESTION 30 **	5	1	0
QUESTION 31 **	6	0	0
QUESTION 32 **	6	0	0
QUESTION 33 **	6	0	0
QUESTION 34 **	3	0	0
QUESTION 35 **	5	0	0
QUESTION 36 **	3	7	0
QUESTION 37 **	7	0	0
QUESTION 38 **	5	0	0
QUESTION 39 **	7	0	0
QUESTION 40 **	5	0	0
QUESTION 41 **	11	0	0
QUESTION 42 **	2	0	0
QUESTION 43 **	6	0	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	6	0	0
QUESTION 48 **	2	0	0
QUESTION 49 **	2	0	0
QUESTION 50 **	10	0	0

STUDENT 39

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	3	0	0	*	2	3	0
RULE 2	1	0	0	0	4	*	1	0	4
RULE 3	0	0	1	0	4	*	0	1	4
RULE 4	2	0	1	2	0	*	2	3	0
RULE 5	3	0	0	0	2	*	3	0	2
RULE 6	4	0	0	0	1	*	4	0	1
RULE 7	1	0	1	0	3	*	1	1	3
RULE 8	4	0	0	0	1	*	4	0	1
RULE 9	3	0	0	0	2	*	3	0	2
RULE 10	2	0	0	1	2	*	2	1	2
TOTAL	22	0	6	3	19	*	22	9	19

STUDENT ANSWERS

ALUNO N. 40

QUESTION 1 **	1	3	0
QUESTION 2 **	3	7	0
QUESTION 3 **	3	7	0
QUESTION 4 **	5	0	0
QUESTION 5 **	12	7	0
QUESTION 6 **	8	0	0
QUESTION 7 **	1	0	0
QUESTION 8 **	11	6	0
QUESTION 9 **	1	5	0
QUESTION 10 **	2	0	0
QUESTION 11 **	6	4	0
QUESTION 12 **	2	6	0
QUESTION 13 **	3	7	0
QUESTION 14 **	3	4	0
QUESTION 15 **	6	0	0
QUESTION 16 **	1	5	0
QUESTION 17 **	2	6	0
QUESTION 18 **	10	0	0
QUESTION 19 **	5	0	0
QUESTION 20 **	2	6	0
QUESTION 21 **	1	3	7
QUESTION 22 **	2	6	0
QUESTION 23 **	7	0	0
QUESTION 24 **	1	5	0
QUESTION 25 **	5	0	0
QUESTION 26 **	7	2	0
QUESTION 27 **	3	5	0
QUESTION 28 **	7	11	0
QUESTION 29 **	3	7	0
QUESTION 30 **	2	6	0
QUESTION 31 **	2	6	0
QUESTION 32 **	5	1	0
QUESTION 33 **	2	6	0
QUESTION 34 **	7	6	0
QUESTION 35 **	5	1	0
QUESTION 36 **	3	7	0
QUESTION 37 **	7	0	0
QUESTION 38 **	1	5	0
QUESTION 39 **	7	5	0
QUESTION 40 **	5	1	0
QUESTION 41 **	7	3	0
QUESTION 42 **	2	6	0
QUESTION 43 **	2	6	0
QUESTION 44 **	5	0	0
QUESTION 45 **	5	0	0
QUESTION 46 **	1	0	0
QUESTION 47 **	2	0	0
QUESTION 48 **	6	0	0
QUESTION 49 **	7	0	0
QUESTION 50 **	2	3	0

STUDENT 40

	C	CI	PC	PCI	E	*	CORRECT	ACCEPTABLE	WRONG
RULE 1	2	0	0	0	3	*	2	0	3
RULE 2	2	0	0	0	3	*	2	0	3
RULE 3	1	0	1	0	3	*	1	1	3
RULE 4	0	2	0	1	2	*	0	3	2
RULE 5	0	0	0	0	5	*	0	0	5
RULE 6	1	0	0	0	4	*	1	0	4
RULE 7	2	1	0	0	2	*	2	1	2
RULE 8	0	0	0	0	5	*	0	0	5
RULE 9	0	0	0	0	5	*	0	0	5
RULE 10	1	0	2	0	2	*	1	2	2
TOTAL	9	3	3	1	34	*	9	7	34

TOTAL RESULTS

	C	CI	PC	PCI	E
RULE 1	72	0	69	4	55
RULE 2	31	9	13	33	114
RULE 3	51	1	20	5	123
RULE 4	27	10	24	68	71
RULE 5	71	0	0	0	129
RULE 6	116	0	0	0	84
RULE 7	53	2	43	6	96
RULE 8	51	0	0	0	149
RULE 9	71	0	0	0	129
RULE 10	57	1	35	21	86
TOTAL	600	23	204	137	1036

	CORRECT	ACCEPTABLE	WRONG
RULE 1	72	73	55
RULE 2	31	55	114
RULE 3	51	26	123
RULE 4	27	102	71
RULE 5	71	0	129
RULE 6	116	0	84
RULE 7	53	51	96
RULE 8	51	0	149
RULE 9	71	0	129
RULE 10	57	57	86
TOTAL	600	364	1036

TABLE I

** PERCENTAGE PER RULE **

	C	CI	PC	PCI	E
RULE 1	0.36	0.0	0.34	0.02	0.27
RULE 2	0.15	0.04	0.06	0.16	0.57
RULE 3	0.25	0.00	0.10	0.02	0.61
RULE 4	0.13	0.05	0.12	0.34	0.35
RULE 5	0.35	0.0	0.0	0.0	0.64
RULE 6	0.58	0.0	0.0	0.0	0.42
RULE 7	0.26	0.01	0.21	0.03	0.48
RULE 8	0.25	0.0	0.0	0.0	0.74
RULE 9	0.35	0.0	0.0	0.0	0.64
RULE 10	0.28	0.00	0.17	0.10	0.43
TOTAL	0.30	0.01	0.10	0.07	0.52

	CORRECT	ACCEPTABLE	WRONG
RULE 1	0.36	0.36	0.27
RULE 2	0.15	0.27	0.57
RULE 3	0.25	0.13	0.61
RULE 4	0.13	0.51	0.35
RULE 5	0.35	0.0	0.64
RULE 6	0.58	0.0	0.42
RULE 7	0.26	0.25	0.48
RULE 8	0.25	0.0	0.74
RULE 9	0.35	0.0	0.64
RULE 10	0.28	0.28	0.43
TOTAL	0.30	0.18	0.52