ANALYSIS OF SYMBOLS, DECLARATIONS AND PUNCTUATIONS THROUGH CONVERSION OF C LANGUAGE INTO ENGLISH LANGUAGE WITH BORLAND C++

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Abstract

This research with the title The analysis of symbols, punctuations and declarations in C language is analyzed accordingly by conversion in order to find the perspective of language: structuralism, meaning, and functionalism, while keeping both of English and computer subject in process for the research. This research has limitation by the chosen of platform and software with Borland C++, the source of the datum also considered to be the basic material so that this thesis doesn't has many problems to solve.By the observation method which is followed by these three crucial problems: (1) The Identification of semiotic problem in symbols from computer language to English language, (2) The Identification of semiotic problem in declarations from computer language to English language, (3) The Identification of semiotic problem in declarations from computer language to English language.

The implication of the problem here is how the researcher convert the C language into English language patterns.The purpose of this research is equally to identify and analyze the symbols, punctuations and declarations from the Borland C++ platform and converting it into English comprehensions. Furthermore, this research is expected to familiarize the reader with which semiotics usually use in C or programming language and what's their significant in English language.In this research, the researcher utilizes semiotics theory and computer programming theory which these two subjects combined together and creating the subject of interdisciplinary called Computational Semiotic.

Keywords: C Language, Borland C++, Computational Semiotics, Declarations

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I INTRODUCTION

Language is the most imperative colloquialism aspect in our life, without language, we are unable to communicate. Communication for most people come out as a habitual process, they can do it in their subconscious part, and for that, as in more depth of knowledge for communication, language actually has many deep meanings and concepts behind it, in this particular research, the language will be used as the medium is modern English

language. The meanings and concepts can be applied to even the inanimate objects. One of the concepts behind it is the formula of language to create another brand-new language originated from the same language designated for inanimate objects especially for computer called machine language, this machine language used in programming so that in a term, human can communicate with computer through symbols, punctuations and declarations.

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This new language can be inferred for the creation of programming language, however, not all languages can be used or to be converse into programming language. There's this postulate and significant of one language that get modified in programming language to this decade, it's the most unique and universal language that even robotic or machine allowed to understand, the said language is English language, this is where the limelight of human language which the English language in this aspect comes into relevancy and compulsory with programming language.

The first high-level programming language was Plankalkul, created by Konrad Zuse in 1942. The first high-level language to have an associated compiler was created by Corrado Bohm in 1951, for his PhD thesis. The first commercially available language was FORTRAN (FORmula TRANslation); developed in 1956 (first manual appeared in 1956, but first developed in 1954) by a team led by John Backus at IBM.

Based on this research, the writer can collect the formulation of problems as such:

1. What is the semiotic identification of symbols meaning between C and English language in C++ compiler?
2. What is the semiotic identification of punctuations meaning between C and English language in C++ compiler?
3. What is the semiotic identification of declarations meaning communication between C and English language in C++ compiler?

Based on the introduction and formulation of the problem, the objective of this research is:

1. To identify and analyze the semiotic meaning between C language and English language in symbols function.
2. To identify and analyze the semiotic meaning between C language and English language in punctuations function.
3. To identify and analyze the semiotic meaning between C language and English language in declarations function.

The result of this research can contribute to both theoretical and practical significances and influences. Theoretically, it is expected that the results of this research could enrich the specific knowledge of the researcher in the linguistic field, especially in the analysis of semiology that are used in the programming language.

Specifically, this research in intended to identify and describe the types, functions and also the factors influencing the conversion of English language into computer language. Practically, it is expected that the results of this research can be useful for the English, Linguistic, and Computer study while using the applied research conduct and daily activities.

This research can provide more knowledges about analysis on programming language, especially to the students of linguistic. Moreover, this research can be reference of deductive for their study. In addition, this research hopefully can be beneficial to the readers in general, in improving their knowledges.

II RESEARCH METHODS

The approach that the researcher uses in his research is qualitative research approach. It involves in collecting and converting data into numerical form so that the statistical calculations can be made and conclusion can be drawn. In this writing, the researcher makes it clear that he

collected and analyze the data to find its meaning semiotically. The approach that has been decided on this research also use scientific calculation.

Method that's been used in this research is a descriptive method. The intention of method's utilization in this research is to describe or represent the object in more lucid way based on this research, it's also illustrated the data in scientific form.

According to Surdayanto (1992: 65) and Djajasudarma (1993: 15) *metode deskriptif bertujuan untuk membuat deskripsi*, which is in their statement said that the method of descriptive is intend to create a description. The true meaning of that is to illustrate in systematic, factual, and accurate about the data, the characteristics, and so does its interconnection between phenomenon included in the research analysis. The method and technique in research are divided into two classification, which are the method and technique of collecting the data, also the method and technique of analyzing data.

The data obtained in this research is collected accordingly through the literature review, because the primary source of data coming from note or script. The techniques mentioned are:

1)   The bait technique or elicitation, is used mainly for getting the additional data in form of information about meaning and purpose from dictions or idioms comparative that's many have been founded from the narrative analysis. This information is the result from interview done in with the accordingly resource person.

2)   Introspection or intuition technique, which is the function of language intuition that's in researcher's repertoire because the researcher is the real deal of speaker in relevant to the language said to be research. According to Wilhelm Wundt (1920), "Introspection is a process that involves looking inward to examine one's own thoughts and emotions". The experimental use of introspection is similar to what you might do when you analyze your own thoughts and feelings but in a much more structured and rigorous way.

Data that has been collected and classified, then get analyzed with using the distributional method. This method is used with the cognitive knowledge that the elements of language that has been researched is organized itself by that language. (Sudaryanto, 992: 31) *Satuan Lingual data yang dianalisis dibagi menjadi beberapa bagian atau unsur. Unsur-unsur yang bersangkutan dipandang sebagai bagian yang langsung membentuk satuan Lingual tersebut.* The unit of Lingual data that want to be analyzed is separated into several segments or sections. These pertinent elements are indicated as direct structure of creation in the said Lingual unit.

Content analysis technique. This is the technique that the writer uses for his research. Content analysis is a research technique used to make replicable and valid inferences by interpreting and coding textual material. By systematically evaluating texts (e.g., documents, oral communication, and graphics), qualitative data can be converted into quantitative data. Based on these points, the researcher uses the point number three as his research technique.

III RESULTS AND DISCUSSION

4.2.1.1 Symbol Data

O	The Symbol, Declarations, Punctuations	The function	Explanation
.	#	This symbol in programm	Before you put include: #include
		ing language is called macro. Its function is to become a directive.	
.	<stdio.h>	Open the	Using the functions that's

No.	Term	Definition	Example
		certain/basic programming language from its library. Stdio.h stands for Standard Input Output and Header.	exist in the library's case or words.
.	<conio.h>	Open the certain/basic programming language from its library. Conio.h stands for Control Input Output and Header.	Using the functions that's exist in the library's case or words.
7.	%	Essentially used for the library of variable calling, the **%** symbol here doesn't mean discount in programming language, instead its used as	Scanf ("**%**i",hargax);
		type of data.	
8.	%I	The after explanation from before, the additional letter use is indicating the type of data you choose. In this aspect, you called the use of string type data, thus you can use the Integer variable.	Scanf("**%i** ",&harga);
9.	%S	The additional letter use is indicating the type of data you choose. In this aspect, you called the use of integer type data, thus you can use the String variable.	Scanf("**%s** ",&harga);
0.	&	To perform the task together. Its function is nearly the	Scanf("%i ",**&**harga);

		same with human language. The difference is that the computer can only utilize it with determined from declaration.	
7.	<String.h>	Adding this in the library from beginning to allow the computer to understand the conditional compound sentence.	#include **<string.h>**
5.	>	This symbol is used for the condition of string and integer or integer and integer. It implied the function of 'more'.	>100.000
6.	=	This symbol is used for the condition of string	=0

		and integer or integer and integer. It implied the function of 'equal'.	
7.	>=	This symbol is used for the condition of string and integer or integer and integer. It implied the function of 'more or equal'.	>=100.000

4.2.1.2 Punctuation Data

O	The Punctuation	The function	Explanation
.	(…)	To define the mutual function from the declaration before.	Bracket with ellipsis points Printf**(…)**
.	{…}	In writing, this indicating the passage of the paragraph, it also functions as the **then or else** declaration indicator.	Parenthesis with ellipsis points **{**open paragraph **}**close paragraph Another example: else**{**harg

			a=17juta;**}**
.	;	The functional symbol, usually use as end sentence. In programming language, this punctuation represents period or to ended a sentence.	The semicolon used when two sentences have correlation it nearly similar with using comma. Her timeline to finish the project is skimp; hence she needs to hurry.
0.	();	These symbols still don't mean anything. It's a must for the delimiter of a declaration	Getch()**;**
2.	("…")	The punctuations to insert the any word you want.	Printf(**" …"**);
3.	("\n")	In writing, this symbol and punctuation used for paragraph spacing.	Printf("**n** ");
4.	("…");	The compulsory requirement for speaking with non-verbal communication in compiler.	Printf(**" …");
5.	("…\n");	The suplementary requirement for speaking with non-verbal communication in compiler because the addition of **n** in there means you use a paragraph.	
5.	[...]	This symbol allows you to input the number of digits in the variable section of string.	Char nama**[20]**; Now you can input the string variable by the limit of 20 characters/digits, more than that is null.

4.2.1.3 Declaration Data

O	The Symbol, Declarations, Punctuations	The function	Explanation
.	Include	Declaration to open the programming library.	Declaration to open the programming library. #Include <stdio.h>
.	Main	The declaration for head or opening in programming section, the opening of this declaration ended with getch in the brink of last line.	Main()

.	Getch	This declaration inserted before the final line of compiler, its function as holding before the compiler input the character, after that, it reads the characters from the screen.	Getch();	1.	String	The type of data for word. Now you can speak non verbally with sentence or word.	In linguistic, it's called sentence/ the form of more than one word.
1.	Printf	The computer can duplicate your words/the mirror function. The main function for this declaration is displaying the output.	The computer only displayed your language, which means it mimics your words, you can't change what's displayed in there afterward.	2.	Integer	The type of data for number and symbol. Now you can speak non verbally with numbers, symbol, and mix of alphabet and numbers.	The computer can recognize 1, 2, 3, &, % etc.
				3.	Char	You can input the variables based on alphabet. Char is the variable for string.	The computer understands the word 'LIMAPULUH'. If you type '5PULUH' it will be error.
6.	Scanf	If you input this declaration, then the computer will listen to what non-verbal communication you use afterward. The opposite of **printf** where it doesn't want to listen on what you will saying afterward.	**Scanf** ("%i",hargax);	4.	Int	You can input the variables based on numbers, symbols and mix. Int is variable for integer.	The computer understands the word L225, #sd70, etc. Although It makes it like int is more flexible than str, it's very recommended to use str if it's only contains alphabets.
				6.	Char[…]	The complementary in order to makes it not error.	

No.	Term	Description	Example
7.	If	Now you can use the 'cause and effect' situational sentence. This is the 'cause' declaration. **If** and Then are complementary.	**If** the amount of money you have is 50.000. (cause sentence.) Another example: **If** X>Y
8.	Then	Now you can use the 'cause and effect' situational sentence. This is the 'effect' declaration. If and **Then** are complementary.	**Then** you can buy the chocolate. (effect sentence.) Another example: **Then** X merupakan bilangan terbesar
9.	Else	You can input two 'effect' problem, more than that, it downs to 'Else if' declaration.	**If** the amount of money you have is 50.000, you can buy the chocolate. Less than that you only can buy the ice cream. Another example: **Then** Y bilangan terbesar.
0.	Else if	The situation is demands another problem and you can change the	If you don't have money at all, then don't buy anything. Anothe

No.	Term	Description	Example
		cause and effect in relation to the same problem. This declaration is called 'nested if'	r example: **Else if** Z>Y **then** Z merupakan bilangan terbesar. **Else** Y merupakan bilangan terbesar.
1.	Repeat	Essential for the function of **looping or reputation**. The kind of activity that we want to do, in English or human language, this is called an order.	**Repeat** 100 times Write "I promise to not fail again"
2.	Times	Essential for the function of **looping**. The **N** or number of times we must do the **Repeat** into action.	Repeat 100 **times** Write "I promise to not fail again"
3.	For	Essential for the function of **looping**. In programming language, this declaration functioned as synonym of **Repeat**.	**For** I from 1 to 100 do Write "I promise I will never late and being lazy again."
4.	Do	Essential for the function of **looping**. In	For I from 1 to 100 **do** Write

No.	Term	Description	Example
		programming language, this declaration functioned as synonym of **Times**.	"I promise I will never late and being lazy again."
5.	Until	Essential for the function of **looping**. In programming language, this declaration functioned as synonym of **Times**.	Repeat Write "I promise to not ever do misconduct and being lazy again" **Until** already 500 times
6.	While	Essential for the function of **looping**. In programming language, this declaration functioned as synonym of **Repeat**.	**While** the designated Nim is nowhere yet to be found and the end table is not overlapped yet do
8.	Strcpy	It stands for String Copy. To copy the string into certain variable.	**Strcpy**(h, NamaArsip);
9.	Strlen	It stands for String Length; to count the amount of characters used in certain String.	
0.	Strcmp	It stands for String Compile or	(**Strcmp**,harga)

No.	Term	Description	Example
		Compound. To activate the function of conditional compound sentence.	
1.	Strrev	The abbreviation for String Reverse, as its names implied as function to reverse the array of String.	
2.	Strlwr	It stands for String Lower. The function is the same as Lowercase.	
3.	Strupr	It stands for String Upper. The function is the same as Uppercase.	
4.	Strcat	It functions as combination between two strings. Including this declaration also means including the header of Ctype.h.	
8.	Const	To declared the standard that already established by default unit.	Const phi = 3.14 Indicates that the formula about the standard of wide or

No.	Term	Description	Example
		volume for circle uses 3.14 each time when you mention the circle.	
9.	Type:record	To create the structure of paragraph.	Type Nilmhs : record < Nim :integer, Nama Mhs : string, KodeMK : string, Nilai : char,
0.	read	To read the input from keyboard, though the cursor is in the same line.	
1.	readin	To read the input from keyboard, the cursor moves to the next line.	
2.	write	To display the output through the monitor, cursor is still in the same line.	
3.	writein	To display the output through the monitor, cursor is move to the next line.	
4.	Getche	Read the character data then followed by ENTER button, the said character is displayed into the screen.	
5.	Getch	Read the character data without followed by Enter button, the said character is not displayed into the screen.	When it's to display what you type in C language, then you need to input getch in before closure bracket. E.g: **Getch**(); }
6.	Gets	To read String from the keyboard.	
7.	Clrscr	The abbreviation for Clean Screen. It's function to clear the display for the next page.	
8.	Puts	An output function to display the information or message with string data type (without adjusting the data type beforehand).	
9.	Putchar	An output function to	

No	Term	Description	Note
		display the information or message with char data type (without adjusting the data type beforehand).	
0.	Iostream.h	It stands for Input Output Stream Header. This header function as the standard of Input and Output in C++ programming.	
1.	Cout	Output function to display any kind of data type on monitor.	
2.	Cin	Input function to insert the data in form of number and character.	
3.	Endl	The function for manipulator to operate newline or change line.	
4.	Math.h	The header function as Aritmathical calculation.	
5.	Sqrt	The abbreviation for square root. It	
		functions as calculate the root from certain elements.	
6.	Stdlib.h	The function used for comparison and conversion	
7.	Max	To choose the 2 maximum amounts of data to be inputted.	Some in English, this word means the array of list or numbers started from the highest to the lowest.
8.	Min	To choose the 2 minimum amounts of data to be inputted.	Some in English, this word means the array of list or numbers started from the lowest to the highest.
9.	Atof	It functions as conversion from String into Double data type.	
0.	Atoi	It functions as conversion from String into Integer.	

IV CONCLUSION

The conclusions from this research:

1) The conversion of C language originated from English language nowadays which can be called as "Lingua franca" for the machine language.

2) In this research, the definition of "conversion" is that the researcher only finds the meaning in English language from the C language, not to scrutinize its structure for the result of this research. The main objective of this research is to find the meaning of said data semiotically. It's considered as conversion because they using the same language; it's not called translation.

3) The structural issues of C language which also clashes with how English language adapted; the example is on how they need some conjecture, punctuations, compound word or morpheme in order to yield cohesive and coherence structure. For example: input of #include <stdio.h> is formed by the combination of symbols, punctuation and declarations in C language. Which in English language moderately you can compare it to adding the prefix, suffix or infix (morpheme) resulted in different meanings, the same goes with English compound word.

4) The meaning is usually the same but some of the programming language has the pattern of abbreviating the word and even combine the two abbreviated words together. For the example the declaration of "strcmp"; 'string compile' essentially the function of compound sentence in standard English.

5) The function is different accordingly to which subject the symbol, punctuation or declaration to be applied, but they have the indication or considered hint of when they need to be used, for example: the declaration 'int' derived from the word integer and its meaning also related with numbers; the function of "int" has different function in C language against the English language moderately, but for both subjects, they have the same meaning. Basically, you know the "word" int used in c language insinuates a number function since you already familiar with English word integer.

6) To clarify the ambiguation between symbol and punctuation, every punctuation that has been used in standard English in writing is concluded as symbol when used in C language.

7) Some of the symbol used in C language can also be applied as punctation in English writing but not all of them. For example: &, ~, +, _ (as punctuation it's called underline, as symbol it's called underscore), #, %, @, $, are included only as a symbol in English, not punctuation.

-All of punctuation acted as symbol in C language. All punctuation can be used in English writing, for example: Asterisk *breathing heavily* *gasp* which means action happening or onomatopoeia.

-Some of the symbol in C language also used in standard English but they're not counted as punctuation.

-All of the declaration in C language is impractical to applied in standard English especially writing since they're abridged (in abbreviation form). They can only be interpreted and find it's meaning through conversion since they have different function.

8) If there is a symbol comes first and after that followed whether by punctuation or declaration, it's clarified as a symbol in C language. This pattern can be seen from appendix #3 and #4.

9) If declaration comes first and after that followed by whether symbol or punctuation, it's clarified as declaration in C language.

10) In this research, the researcher found out that the symbol plays the biggest role in the C language since punctuation used in there become a symbol; on the other hand, punctuation utilizes the most in English grammatically and in fact punctuation is the hardest since this research main focus is its conversion into English. Declaration specifically invented for programming language and derived from English words.

The suggestion from the researcher himself is that this research is a rudimentary research which needs more further development due to the

limitation of the problem or otherwise this research will take a longer time to finish and lost its own limitation value. Due to the platform of C language using the Borland C++. There's actually still much more data that can be analyzed, but due for the time being, the amount of data that researcher collected is considered to be enough. There's also broader platform for the researcher to utilize beside the C++ language. The thank you note can be referred to the acknowledgements.

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