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TUTORIAL

First Program in C Language

Chapter

1. First Program in C Language

C is a programming language developed at AT & T's Bell Laboratories of USA in 1972. It was designed and written by a man named Dennis Ritchie. In the late seventies C began to replace the more familiar languages of that time. Possibly why C seems so popular is because it is reliable, simple and easy to use. Communicating with a computer involves speaking the language the computer understands, which immediately rules out English as the language of communication with computer. However, there is a close analogy between learning English language and learning C language. The classical method of learning English is to first learn the alphabets used in the language, then learn to combine these alphabets to form words, which in turn are combined to form sentences and sentences are combined to form paragraphs. Learning C is similar and easier. Instead of straight-away learning how to write programs, we must first know what alphabets, numbers and special symbols are used in C, then how using them constants, variables and keywords are constructed, and finally how are these combined to form an instruction.

But, before digging these topics deeper, we have to take a short look on a sample program in C, how it looks like. What are the general components and how it will work to get familiar with programming in C, all these can be seen from below program which prints "Hello World!" on screen.

```c
#include<stdio.h>

int main()
{
  printf("Hello World!");
  // This is a comment. Above line will just print Hello World! On screen.
  return 0;
  /* This is an example of multi-line comment,
  instead of one line you can also write multi-line comments which generally used to provide readability of code.
  These must start end with proper constructs as shown here. */
}

```

This is a sample program to print a simple message on screen. The first line is a general command to include an already created file “stdio.h” which contains standard Input-Output functions like printf() used in the program. So that programmers need not to worry about hardware, he can more focus on writing programs. Second line is the main() function (in other words, the main gate of home) from where the CPU will start executing the program. The curly braces are used to define the set of statements which are part of a single block. printf() is a function provided by C library, which is used to print something on screen. last line is used to return back or end the program. // is used to comment a line in program. Comment does not make any sense for compiler. Compiler just ignores the comments written. These are written just for programmer reading references which makes the program much easier to understand and maintain for a long time. To write a short single line comment we use double slash //. Everything after // in that line is treated as a comment. If a particular potion needs to be comments, we generally use /* to start comment and */ to end comment. This is an multi line comment. Everything between these /* and */ is completely ignored by compiler while compiling the program.

After writing your program you must compile it before executing.

We can compile the programs using compilers, there are a lot of compilers for C language today like Turbo C, gcc etc. gcc (GNU Compiler Collection) is the most popular compiler now a days. It is free and open source so you can download and use it freely.