PROGRAMMING IN C

Before you start doing programming using C programming language, you need the following two softwares available on your computer, (a) Text Editor and (b) The C Compiler.

Text Editor
This will be used to type your program. Examples of few editors include Windows Notepad, OS Edit command, Brief, Epsilon, EMACS, and vim or vi.

Name and version of text editor can vary on different operating systems. For example, Notepad will be used on Windows, and vim or vi can be used on windows as well as Linux or UNIX.

The files you create with your editor are called source files and contain program source code. The source files for C programs are typically named with the extension *".c"*.

Before starting your programming, make sure you have one text editor in place and you have enough experience to write a computer program, save it in a file, compile it and finally execute it.

The C Compiler
The source code written in source file is the human readable source for your program. It needs to be "compiled", to turn into machine language so that your CPU can actually execute the program as per instructions given.

This C programming language compiler will be used to compile your source code into final executable program. I assume you have basic knowledge about a programming language compiler.

CProgramStructure

C Hello World Example

A C program basically consists of the following parts:

- Preprocessor Commands

- Functions

- Variables

- Statements & Expressions

- Comments

Let us look at a simple code that would print the words "**Hello World**":

```c
#include <stdio.h>

int main()
{
   /* my first program in C */
   printf("Hello, World! \n");

   return 0;
}
```

Let us look various parts of the above program:

1. The first line of the program #include **<stdio.h>** is a preprocessor command, which tellsa C compiler to include **stdio.h** file before going to actual compilation.

2. The next line **int main**() is the main function where program execution begins.

3. The next line **/*...*/** will be ignored by the compiler and it has been put to add additionalcomments in the program. So such lines are called comments in the program.

4. The next line **printf(...)** is another function available in C which causes the message"Hello, World!" to be displayed on the screen.

5. The next line return 0; terminates **main()**function and returns the value 0.

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