C Program Structure

Lets see a simple C program:

```
#include <stdio.h>

int main()

{

 printf("Hello,World");  //single line comment

 return 0;

/*

    multi

    line

    comments

/*

}
```

```
Hello,World
```

Different parts of C program

- Pre-processor
- Header file
- Function
- Variables
- Statements & expressions
- Comments

All these are essential parts of a C language program.

Pre-processor

`#include` is the first word of any C program. It is also known as a **pre-processor**. The task of a pre-processor is to initialize the environment of the program, i.e to link the program with the header files required. So, when we say `#include <stdio.h>`, it is to inform the compiler to include the **stdio.h** header file to the program before executing it.

Header file

A Header file is a collection of built-in functions, which we can directly use in our program. Header files contain definitions of the functions which can be incorporated into any C program by using pre-processor `#include` statement with the header file. Standard header files are provided with each compiler, and covers a range of areas like string handling, mathematical functions, data conversion, printing and reading of variables.

To use any of the standard functions, the appropriate header file must be included. This is done at the beginning of the C source file.

For example, to use the `printf()` function in a program, which is used to display anything on the screen, the line `#include <stdio.h>` is required because the header file **stdio.h** contains the `printf()` function. All header files will have an extension `.h`

main() function

`main()` function is a function that must be there in every C program. Everything inside this function in a C program will be executed. In the above example, `int` written before the `main()` function is the **return type** of main() function. The curly braces `{ }` just after the **main()** function encloses the **body** of **main()** function.

Comments

We can add comments in our program to describe what we are doing in the program. These comments are ignored by the compiler and are not executed.

To add a single line comment, start it by adding two forward slashses `//` followed by the comment.

To add multiline comment, enclode it between `/* .... */`, just like in the program above.

Return statement - return 0;

A return statement is just meant to define the end of any C program.

All the C programs can be written and edited in normal text editors like Notepad or Notepad++ and must be saved with a file name with extension as `.c`

If you do not add the extension `.c` then the compiler will not recognise it as a C language program file.