

We are going to learn a simple “Hello World” C program in this section. Also, all the below topics are explained in this section which are the basics of a C program.

1. C basic program with output and explanation
2. Steps to write C programs and get the output
3. Creation, Compilation and Execution of a C program
 1. How to install C compiler and IDE
4. Basic structure of a C program

Basic commands in C programming to write basic C Program:

Below are few commands and syntax used in C programming to write a simple C program. Let's see all the sections of a simple C program line by line.

S.no	Command	Explanation
1	#include <stdio.h>	This is a preprocessor command that includes standard input output header file(stdio.h) from the C library before compiling a C program
2	int main()	This is the main function from where execution of any C program begins.
3	{	This indicates the beginning of the main function.
4	/* some comments */	whatever is given inside the command “/* */” in any C program, won't be considered for compilation and execution.
5	printf(“Hello World! “);	printf command prints the output onto the screen.
6	getch();	This command waits for any character input from keyboard.
7	return 0;	This command terminates C program (main function) and returns 0.
8	}	This indicates the end of the main function.

1. C Basic Program:

```
#include <stdio.h>
int main()
{
/* Our first simple C basic program */
printf("Hello World! ");
getch();
return 0;
}
```

Output:

```
Hello
World!
```

2. Steps to write C programs and get the output:

Below are the steps to be followed for any C program to create and get the output. This is common to all C program and there is no exception whether its a very small C program or very large C program.

3. Creation, Compilation and Execution of a C program:

Prerequisite:

- If you want to create, compile and execute C programs by your own, you have to install C compiler in your machine. Then, you can start to execute your own C programs in your machine.
- You can refer below link for how to install C compiler and compile and execute C programs in your machine.
- Once C compiler is installed in your machine, you can create, compile and execute C programs as shown in below link.

4. Basic structure of C program:

Structure of C program is defined by set of rules called protocol, to be followed by programmer while writing C program. All C programs are having sections/parts which are mentioned below.

1. Documentation section
2. Link Section
3. Definition Section
4. Global declaration section
5. Function prototype declaration section
6. Main function
7. User defined function definition section

Example C program to compare all the sections:

You can compare all the sections of a C program with the below C program.

```
/* C basic structure program Documentation section
Author: fresh2refresh.com
Date : 01/01/2012
*/#include <stdio.h> /* Link section */
int total = 0; /* Global declaration and definition section */
int sum (int, int); /* Function declaration section */
int main () /* Main function */
{
printf ("This is a C basic program \n");
total = sum (1, 1);
printf ("Sum of two numbers : %d \n", total);
return 0;
}
int sum (int a, int b) /* User defined function */
{ /* definition section */
return a + b;
}
```

Output:

```
This is a C basic program
Sum of two numbers :
2
```

Description for each section of a C program:

- Let us see about each section of a C basic program in detail below.
- Please note that a C program mayn't have all below mentioned sections except main function and link sections.
- Also, a C program structure mayn't be in below mentioned order.

S.No	Sections	Description
1	Documentation section	We can give comments about the program, creation or modified date, author name etc in this section. The characters or words or anything which are given between "/*" and "*/", won't be considered by C compiler for compilation process. These will be ignored by C compiler during compilation. Example : /* comment line1 comment line2 comment 3 */

2	Link Section	Header files that are required to execute a C program are included in this section
3	Definition Section	In this section, variables are defined and values are set to these variables.
4	Global declaration section	Global variables are defined in this section. When a variable is to be used throughout the program, can be defined in this section.
5	Function prototype declaration section	Function prototype gives many information about a function like return type, parameter names used inside the function.
6	Main function	Every C program is started from main function and this function contains two major sections called declaration section and executable section.
7	User defined function section	User can define their own functions in this section which perform particular task as per the user requirement.