

C- Programming

My First c program : -

```
#include <stdio.h>

int main(){
    printf("Hello world!");
    return 0;
}
```

This was the basic syntax in c.

- `#include <stdio.h>` - is a header file which let us use features like input & output by using `printf` & `scanf`
- `main()` - This is called a function. any code inside the curly brackets `{}` will get executed.
- `printf` - It is a function which help us to get output/print text on the screen.
- `Return 0` - executes the code and give a output of 0. If the code has error then it wont get executed and it will return the value other then 0.

Note :-

- Every C statement ends with a semicolon `;`
- Don't forget to add `}` curly brackets at the end of the code.

Q/Ans -

1. What is a computer program ?
 - List of instructions to be executed by a computer.
2. What is statements ?
 - In a programing language, these programming instructions are called statements.
 - In a C programs contain many statements which are executed one by one in the same order in which they are written in.

Characters :-

- `\n` - The new line character can be used at the end of the line. which we move next text u wrote in next line

Comments :-

There are three types of comments like :-

- `// Text` - Single line comments
- `/* Text */` - Multi line comments

Variables :-

variables are containers for storing data values, like numbers and characters.

in c there are different types of variables (defined with different keywords).

- `int` - stores integers (whole numbers), without decimals, such as `123` or `-123`
- `float` - Stores floating point numbers, with decimals, such as `19.99` or `-19.99`
- `char` - Stores single characters, such as `a` or `B`. Characters are surrounded by single quotes

Declaring Variables :-

To create a variable, specify the type and assign it a value :

```
type variablename = value;
```

Example :-

```
int myNum = 15;
```

you can also declare a variable without assigning the value, and assign the value later:

Example :-

```
// Declare a variable
int myNum;

// Assign a value to the variable
myNum = 15;
```

and u can use this program to get output :-

```
# include <stdio.h>

int main(){
    int boss;
    boss = 19;
```

```
printf("%d", boss);  
return 0;  
}
```

Format Specifier :-

Format specifier are used together with the `printf`

A format specifier starts with a percentage sign `%`, followed by a character.

```
int    = %d  
char   = %c  
float  = %f
```

Used case :-

```
int hi = 15;  
printf("%d", myNum); //Outputs 15
```

E.g. :-

```
// Create variables  
int myNum = 15;           // Integer (whole number)  
float myFloatNum = 5.99;  // Floating point number  
char myLetter = 'D';      // Character  
  
// Print variables  
printf("%d\n", myNum);  
printf("%f\n", myFloatNum);  
printf("%c\n", myLetter);
```

E.g. :- with text and variables combined -

```
int hi = 15;  
printf("My favorite number is : %d", hi);
```

E.g. :- with different variables in single printf() -

```
int mynum = 15;  
char mylatter = 'D';  
printf("My number is %d and my letter is %c", mynum,mylatter);
```