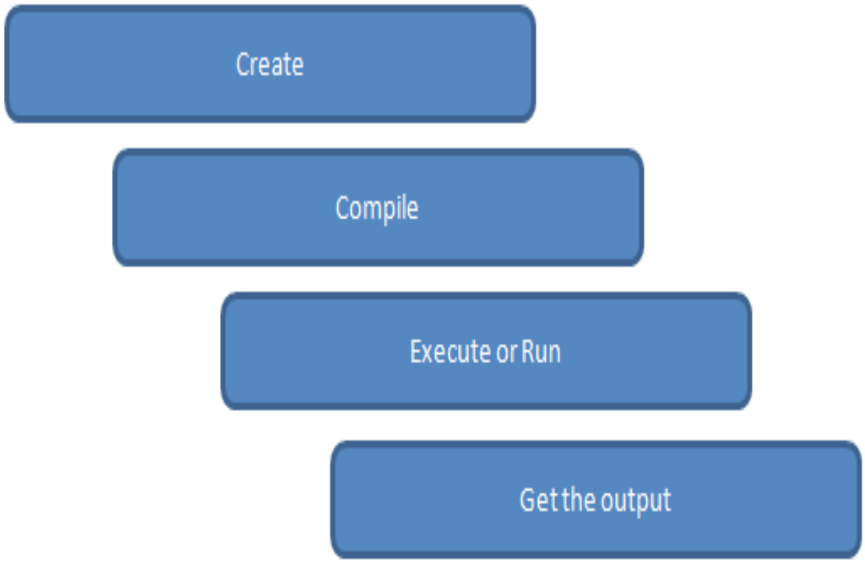
Basic of C programming Structures



The First C program:-

- Print Hello in c program.
- #include<stdio.h> /* #include is a preprocessor directive */

```
int main()
{
    pintf("Welcome to first C program");
    return 0;
    }
```

Output: - Welcome to first C program

- Printf() Function:- printf() function is used to print the "character, string, float, integer, octal and hexadecimal values" onto the output screen.
- We use printf() function with %d format specified to display the value of an integer variable.
- Similarly %c is used to display character, %f for float variable, %s for string variable, %lf for double and %x for hexadecimal variable.
- To generate a newline, we use "\n" in C printf() statement.

What is main() ?

- Main() a crucial part of any c program. Main() is a function.
- A function is nothing is but a container for a set of statements
- All statements of that belong to main() are enclose within a pair of braces {} as shown below.
- Main() function always return an integer value hence there is an int before main().
- The integer value that we are returning is 0.
- Some compilers like Turbo c/c++ even permit us to return nothing from main().In such a case we should precede it with the keyword void.

How to define Variables:-

We have learnt constants and variables in isolation.

```
int  p,n; /*declaration*/
float r, si ; /* declaration*/
si = p*n*r/100; /*usage to formula */
```

Note: - * and / are the arithmetic operators. The arithmetic operators available in c are +, -, * and /.
There are as many as 45 operators available in C.
What is '\n' doing in this statement?
It is called newline and it takes the cursor the next line

Examples: - 1

```
/* Calculation of simple interest */
#include <stdio.h>
Int main()
{
    int p , n ;
    float r , si ;
   p= 1000;
   n= 3;
    r= 8.5 ;
/* formula for simple interest */
Si= p*n*r/100;
Printf("%f \n", si);
Printf("%d %d %f %f", p,n,r,si);
Printf("simple interest = Rs. %f", si);
Printf("principle = %d \n rate = %f" , p, r);
Return o;
}
```

Examples 2 use to scanf() function

- Note the use of ampersand (&) before the variables in the scanf() function is a must. & is an address of operator.
- It gives the location number (address) used by the variable in memory.

```
/* Calculation of simple interest */
#include <stdio.h>
Int main()
{
    int p , n ;
    float r , si ;
    Printf("Enter values of p,n,r");
      Scanf("%d%d%f", &p,&n,&r);
        Si=p*n*r/100;
          Prinf("%f\n", si);
Return 0;
}
```

Example: - 3

```
#include<stdio.h>
Int main()
{
    int num;
Printf("Enter a number");
Scanf("%d",&num);
Printf("some messages on a secret …\n");
Printf("you have print the number %d\n", num);
Return 0;
}
```