

BCA 1st Semester, 2025-28

Online Class

By: Ashutosh Pawan

Topic: Programming Language in 'C'

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Any Type of value input function

- **scanf()** – Used to input any type of value in relevant type of temporary memory.
- **Defined in** – `stdio.h`
- **Argument** – varying length, Depends on first argument (Conversion String), same number of memory addresses
- **Return type** – `int`, number of memory that stores the input
- **Syntax:**

```
scanf("<Set_of_Conversion_String>", &<var_name>,.....);
```

Any type value output function

- **printf()** – Used to output any type of constant value (for fixed string value no type specification is required), stored earlier in temporary memory.
- Defined in – **stdio.h**
- **Argument** – varying length, Depends on first argument (Conversion String), same number of memory name
- **Return type** – int, number of data successfully written on screen
- Syntax:

```
printf("<Conversion_string>", <var_name>,.....);
```

- Write a program in 'C' to display the sum of two numbers in the screen.
- `#include<stdio.h>`
- `void main()`
- `{`
- `int num1,num2,res; /*variable declaration*/`
- `printf("Enter Two numbers:\t"); /*msg to user*/`
- `scanf("%i%i",&num1,&num2); /*input two nos.*/`
- `res=num1+num2; /*addition of two numbers*/`
- `printf("%d+%d=%d",num1,num2,res); /*output*/`
- `}`

Control Structure

- Use to make decision or repeat any set of actions.
- Those control structure that are used to make decision are known as selection control structure.
- Those control structures that are used to repeat a set of actions for a finite times, are known as loop control structures.

Selection Control Structures

- Also known as selection constructs.
- There are five selection constructs:
 - if selection construct
 - if-else selection construct
 - [Used when two data or output are given in prob.]
 - if-else ladder selection construct
 - Nested if-else selection construct
 - switch-case selection construct
 - [Used when more than two data or output are given in prob.]

if selection construct

- Works only when the specified condition becomes true. [means when condition becomes false no action will be performed].

- Syntax for multiple statements

```
if(<condition>) {  
<statements/true_statements>;  
-----;  
-----;}  
-----;
```

- Syntax for single statement

```
if(<condition>)  
<statement>;
```

Example of if selection construct

```
#include<stdio.h>
#include<conio.h>
void main()
{
int num;
clrscr();
printf("\n Enter any number");
scanf("%i",&num);
if(num%2==0){
printf("\n%d is Even number",num);}
if(num%2!=0)
{printf("\n%d is Odd number");}
}
```

```
#include<stdio.h>
#include<conio.h>
void main()
{
int num;
clrscr();
printf("\n Enter any number");
scanf("%i",&num);
if(num%2==0)
printf("\n%d is Even number",num);
if(num%2!=0)
printf("\n%d is Odd number");
}
```

if –else selection construct

- Performs different set of actions when the condition becomes true or false.

- Syntax for multiple statements

```
if(<condition>) {  
<statements/true_statements>;  
-----;}  
  
else{  
<statements/false_statements>;  
-----;}
```

- Syntax for single statement

```
if(<condition>)  
<True_statement>;  
  
else  
<false_statement>;
```

Example of if-else selection construct

```
#include<stdio.h>
#include<conio.h>
void main()
{
int num1,num2;
clrscr();
printf("\n Enter two numbers");
scanf("%i",&num1,&num2);
if(num1<num2){
printf("\n%d is smaller number",num1);}
else
{printf("\n%d is smaller number",num2);}
}
```

```
#include<stdio.h>
#include<conio.h>
void main()
{
int num1,num2;
clrscr();
printf("\n Enter two numbers");
scanf("%i",&num1,&num2);
if(num1<num2)
printf("\n%d is smaller number",num1);
else
printf("\n%d is smaller number",num2);
}
```