

## Control Statements in C.

(1)

All statements written in a program are executed from top to bottom one by one. Control statements are used to execute / transfer the control from one part of the program to another depending on a condition. These statements are also called as conditional statements.

There are two types of control / conditional statements used in C language.

- a. if-else statement.
- b. switch statement.

if-else Statement :- if-else statement is used to execute a statement block or a single statement depending on the value of a condition. It has the following form: (2011, 2012, 2015)

```
if (condition)
{
    .....
    <true block>
    .....
}
else
{
    .....
    <>false block>
    .....
}
```

where <condition> is a logical expression which will have the value true or false.

1.Q. Write a C program to find the biggest of given two numbers.

Sol<sup>n</sup>: /\* program to find biggest of two numbers \*/

```

#include <stdio.h>
#include <conio.h>
main()
{
    int a, b, big;
    clrscr();
    printf("\n Enter two numbers:");
    scanf("%d %d", &a, &b);
    big = a;
    if (b > big)
        big = b;
    printf("\n Biggest number is %d", big);
    getch();
}

```

2.9: Write a C program to find the biggest of given three numbers.

Sol<sup>n</sup>:- /\* Program to find biggest of three Numbers \*/

```

#include <stdio.h>
#include <conio.h>
main()
{
    int a, b, c, big;
    clrscr();
    printf("\n Enter three numbers:");
    scanf("%d %d %d", &a, &b, &c);

    big = a;
    if (b > big)
        big = b;
    if (c > big)
        big = c;
    printf("\n Biggest number is %d", big);
    getch();
}

```

Nested if-else statement :- An if statement may have another if statement in the <true block> and <false block>. This compound statement is called nested if statement. Any no. of if statements can be nested. It has the following form:

```
if (condition 1)
  if (condition 2)
  {
    .....
    <true block 1>
    .....
  }
  else
  {
    .....
    <false block 1>
    .....
  }
else
  if (condition 3)
  {
    .....
    <true block 2>
    .....
  }
  else
  {
    .....
    <false block 2>
    .....
  }
}
```

Example:-

```
if (a > b)
  if (a > c)
    big = a;
  else
    big = c;
else if (b > c)
  big = b;
else
  big = e;
```

1.Q: Write a C program to find the biggest of given three nos. using a nested if statement (2013, 14, 15)

Sol<sup>n</sup>: /\* program to find biggest of three numbers using nested if \*/

```
#include <stdio.h>
#include <conio.h>
main()
{
    int a, b, c, big;
    clrscr();
    printf("\n Enter three numbers: ");
    scanf("%d %d %d", &a, &b, &c);
    if (a > b)
        if (a > c)
            big = a;
        else
            big = c;
    else if (b > c)
        big = b;
    else
        big = c;
    printf("\n Biggest number is %d", big);
    getch();
}
```

2.Q:- Write a C program to find the value of y using,

$$y(x, n) = \begin{cases} 1+x & \text{when } n=1 \\ 1+x/n & \text{when } n=2 \\ 1+x^n & \text{when } n=3 \\ 1+nx & \text{when } n > 3 \text{ or } n < 1. \end{cases}$$

(using nested if statement)

Sol<sup>n</sup> :-

/\* program to find value of y \*/

(5)

```
# include <stdio.h>
```

```
# include <conio.h>
```

```
# include <math.h>
```

```
main ()
```

```
{
```

```
int n;
```

```
float x, y;
```

```
clrscr();
```

```
printf ("\n Enter value to x and n:");
```

```
scanf ("%f %d", &x, &n);
```

```
if (n == 1)
```

```
    y = 1 + x;
```

```
else
```

```
    if (n == 2)
```

```
        y = 1 + x/n;
```

```
    else
```

```
        if (n == 3)
```

```
            y = 1 + pow(x, n);
```

```
    else
```

```
        y = 1 + x*x;
```

```
printf ("\n value of y(x, n) = %.62f", y);
```

```
getch();
```

```
}
```