

**Course Name:** O Level (2nd Sem B2 and B3 Batch)  
**Topic:** Switch Case Statement

**Subject:** C Language  
**Date:** 30-March-2020

### Switch Case

This is a multiple or multi-way branching decision making statement. When we use nested if-else statement to check more than one conditions then the complexity of a program increases in case of a lot of conditions. So to overcome this problem, C provides 'switch case'. Switch case checks the value of a expression against a case values, if condition matches the case values then the control is transferred to that point.

#### Syntax: switch (expression)

```
{  
    case expr1:  
        statements;  
    break;  
    case expr2:  
        statements;  
    break;  
    .  
    .  
    case expr N:  
        statements;  
    break;  
    default:  
        statements;  
    break;  
}
```

*In this syntax, switch, case, break are keywords.  
expr1, expr2 are known as 'case labels.'  
Break statement causes an exit from switch statement.  
Default case is optional case. When neither any match found, it executes*

**Note:** The **break** statement is needed so that once a case has been executed, it will skip all the other cases and go outside the **switch** statement.  
If the **break** statement is omitted, the execution will be carried out to the next alternatives until the next **break** statement is found.

#### Example 1: Program to check which digit number is given by the user.

```
#include<stdio.h>  
#include<conio.h>  
main()  
{  
    int x,i;  
    clrscr();  
    printf("enter any digit no.");  
    scanf("%d",&x);  
    for(i=0;x!=0;x/=10)  
        i++;  
    switch(i)  
    {  
        case 1:    printf("One Digit No.");  
                   break;  
        case 2:    printf("Two Digit No.");  
                   break;  
        case 3:    printf("Three Digit No.");  
                   break;  
        case 4:    printf("Four Digit No.");  
                   break;  
        case 5:    printf("Five Digit No.");  
                   break;  
        default:   printf("Wrong Input");  
    }  
    getch();  
}
```

**Example 2:** Write a C program that displays the recommended actions depending on the color of a traffic light using the switch statement.

```
#include<stdio.h>
#include<conio.h>
void main ( )
{
    char colour;
    printf ("Enter the colour of the light (R,G,Y,A): ");
    scanf ("%c", &colour);
    switch (colour)
    {
        case 'R':
        case 'r':    printf ("STOP! \n");
                    break;

        case 'Y':
        case 'y':    printf ("CAUTION! \n");
                    break;

        case 'G':
        case 'g':    printf ("GO! \n");
                    break;

        default:    printf ("The colour is not valid.\n");
                    getch();
    }
}
```

**Example 3:** Write a menu driven program using switch case which has following option:

- |                           |                              |                       |
|---------------------------|------------------------------|-----------------------|
| 1. Addition of numbers    | 2. Multiplication of numbers |                       |
| 3. Subtraction of numbers | 4. Division of numbers       | 5. Modulus of numbers |

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a,b,ch;
    clrscr();
    printf("Enter any two number\n");
    scanf("%d%d",&a,&b);
    printf("Enter your choice\n1=add\n2=multi\n3=sub\n4=div\n5=mod");
    scanf("%d",&ch);
    switch(ch)
    {
        case 1: printf("Addition of number=%d",a+b);
                break;
        case 2: printf("Multiplication of number=%d",a*b);
                break;
        case 3: printf("Subtraction of number=%d",a-b);
                break;
        case 4: printf("Division of number=%d",a/b);
                break;
        case 5: printf("Modulus of number=%d",a%b);
                break;
        default: printf("Wrong input ");
    }
    getch();
}
```

**Try yourself:**

- Q.1.** Write a program with the help of switch case to input any number between 1 to 7 and print the appropriate day name. (Assume 1 is Monday).
- Q.2.** Write a program to input any 3 digit number and any one from the following option:
- |                 |                            |                     |
|-----------------|----------------------------|---------------------|
| 1. Sum of Digit | 2. Multiplication of digit | 3. Reverse of Digit |
|-----------------|----------------------------|---------------------|