Decision making with switch statement:

➢ This control statement that allows us to make a decision from the number of choices i.e. it is another way of multi-way decision making.

➢ It is used when
- o Only one variable is tested.
- o All branches must depend on the value of that variable.
- o Variable must be an integral type (int, long, short or char)
- o Mainly used for menu driven programs.

➢ **Syntax(switch-case-default):**

```
switch (integer expression)
{
        case constant1:
                statement(s);
                break;
        case constant2:
                statement(s);
                break;
        case constant3:
                statement(s);
                break;
                . . . . . . . . . . . . . . . . .
                . . . . . . . . . . . . . . . .
        default:
                statement(s);
}
```

➢ **Example:** Input two numbers and an operator. Perform the operation according to the inputted operator.

```
main()
{
        char op;
        int n1, n2, result;
        printf("Enter an operator:");
        scanf("%c",&op);
        printf("Enter two numbers:");
        scanf("%d%d",&n1,&n2);
        switch(op)
        {
                case '+':
                        result=n1+n2;
                        printf("\nResult=%d",result);
                        break;
                case '-':
                        result=n1-n2;
                        printf("\nResult=%d",result);
                        break;
                case '*':
                        result=n1*n2;
                        printf("\nResult=%d",result);
                        break;
```

```
            case '/':
                    result=n1/n2;
                    printf("\nResult=%d",result);
                    break;
            default:
                    printf("Invalid operator. Try again!");
        }
    }
```

➢ **Output:**   Enter an operator:*
                     Enter two numbers:2 5
                     Result=10.
➢ The default in the switch case is optional.
➢ Default is always true. That means if you will not write break statement in the previous cases then default will also be executed.
➢ Each case is followed by an integer or character constant.
➢ Cases can be arranged in any order.
➢ We can use char values in case and switch.
➢ We can mix integer and character constants in cases.
➢ Sometime there may not be any statements in some cases.
➢ We can't have a statement like i<=10 in cases i.e. the following statement is not allowed:
        case i<=10:
➢ The break statement when used in a switch takes the control outside the switch. However, use of continue will not take the control to the beginning of switch.