

Control Statements

Decision Making

Statement	Description
<u>if statement</u>	An if statement consists of a boolean expression followed by one or more statements.
<u>if...else statement</u>	An if statement can be followed by an optional else statement , which executes when the boolean expression is false.
<u>nested if statements</u>	You can use one if or else if statement inside another if or else if statements.
<u>switch statement</u>	A switch statement allows a variable to be tested for equality against a list of values.

Sample Java Program- if statement

```
public class Test
{
    public static void main(String args[])
    {
        int x = 30;
        if( x < 20 )
        {
            System.out.print("This is if statement");
        }
        Else
        {
            System.out.print("This is else statement");
        }
    }
}
```

Sample Java Program- if –else statement

```
public class Test
{
    public static void main(String args[])
    {
        int x = 30;
        if( x < 20 )
        {
            System.out.print("This is if statement");
        }
        else
        {
            System.out.print("This is else statement");
        }
    }
}
```

Sample Java Program- if –else-if statement

```
public class Test {  
    public static void main(String args[]) {  
        int x = 30;  
        if( x == 10 ){  
            System.out.print("Value of X is 10");  
        }  
        else if( x == 20 ){  
            System.out.print("Value of X is 20");  
        }  
        else if( x == 30 ){  
            System.out.print("Value of X is 30");  
        }  
        else {  
            System.out.print("This is else statement");  
        }  
    }  
}
```

Sample Java Program- switch statement

```
class SwitchDemo
{
    public static void main(String[] args) {
        int month = 8;
        switch (month)
        {
            case 1: System.out.println("January"); break;
            case 2: System.out.println("February"); break;
            case 3: System.out.println("March"); break;
            case 4: System.out.println("April"); break;
            case 5: System.out.println("May"); break;
            case 6: System.out.println("June"); break;
            case 7: System.out.println("July"); break;
            case 8: System.out.println("August"); break;
            case 9: System.out.println("September"); break;
            case 10: System.out.println("October"); break;
            case 11: System.out.println("November"); break;
            case 12: System.out.println("December"); break;
            default: System.out.println("Invalid month.");break;
        }
    }
}
```

Loop Type

Loop Type	Description
<u>while loop</u>	Repeats a statement or group of statements while a given condition is true. It tests the condition before executing the loop body.
<u>for loop</u>	Execute a sequence of statements multiple times and abbreviates the code that manages the loop variable.
<u>do...while loop</u>	Like a while statement, except that it tests the condition at the end of the loop body

Loop control statements

[break statement](#)

Terminates the **loop** or **switch** statement and transfers execution to the statement immediately following the loop or switch.

[continue statement](#)

Causes the loop to skip the remainder of its body and immediately retest its condition prior to reiterating.

Sample Java Program-while loop

```
class WhileLoopExample
{
    public static void main(String args[])
    {
        int i=10
        while(i>1)
        {
            System.out.println(i);
            i--;
        }
    }
}
```

Sample Java Program-for loop

```
class StarTriangle
{
    public static void main(String[] args)
    {
        int i,j,k;
        for(i=1; i<=5; i++)
        {
            for(j=4; j>=i; j--)
            {
                System.out.print(" ");
            }
            for(k=1; k<=(2*i-1); k++)
            {
                System.out.print("*");
            }
            System.out.println("");
        }
    }
}
```

Sample Java Program- do while loop

```
public class DoWhileExample
{
    public static void main(String[] args)
    {
        int i =0;
        do
        {
            System.out.println("i is : " + i);
            i++;

        }while(i < 5);

    }
}
```