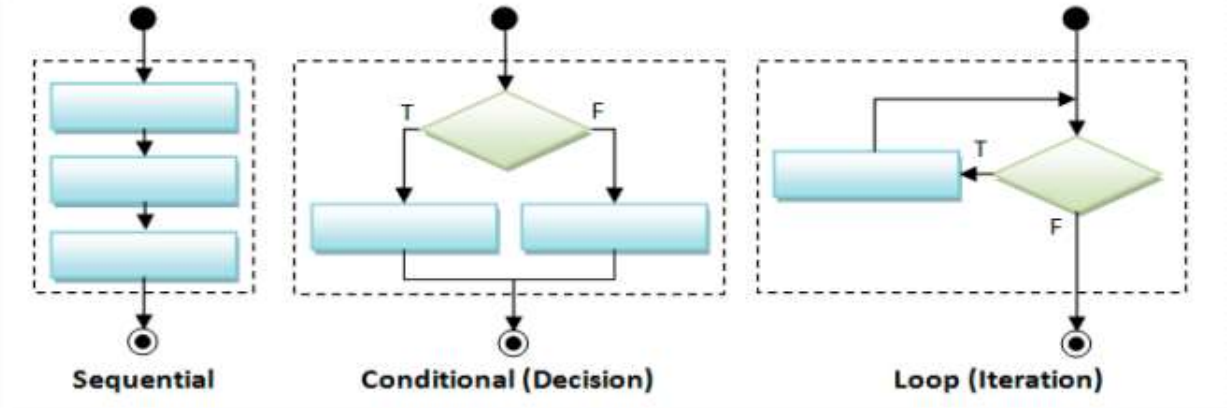
Control Statements

Control statements change or break the flow of execution by implementing decision making, looping and branching your program to execute particular blocks of code based on conditions.

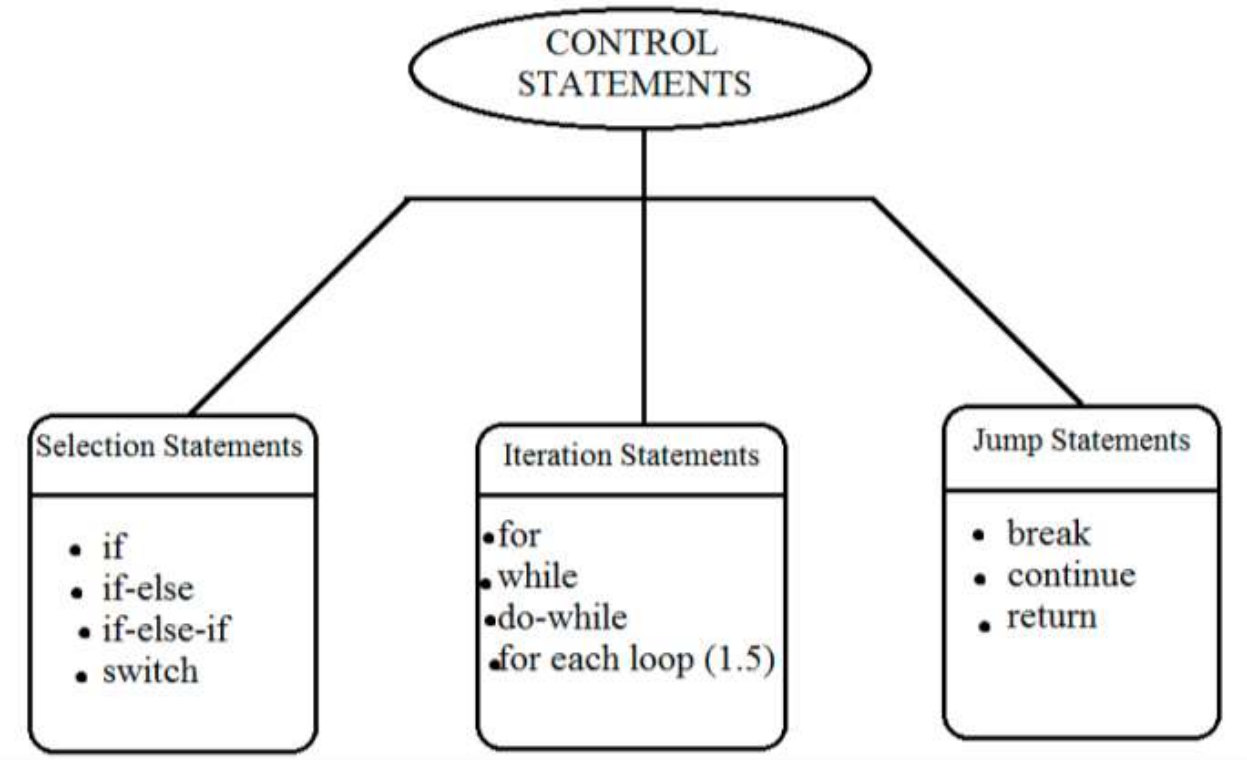
Java provides 3 types of control statements.

Understanding Control Statements

- **Control flow statements**, change or break the **flow** of execution by implementing decision making, looping, and branching your program to execute particular blocks of code based on the conditions.



- Java Provides '3' types of control statements.


CONTROL STATEMENTS
Selection Statements
if
if-else
if-else-if
switch
Iteration Statements
for
while
do-while
for each loop (1.5)
Jump Statements
break
continue
return

Selection Statements

- Java selection statements allow to control the flow of program's execution based upon **conditions** known only during run-time.
- Java provides four selection statements:
  1) if
  2) if-else
  3) if-else-if
  4) switch

Understanding 'if' statement

- The argument passing to the 'if' statement should be **boolean**

Syntax:

```
if(condition)
        {
                //executes this block if the result is 'true'
        }
else
        {
                //executes this block if the result is 'false'
        }
```


- Both 'else' and braces are optional in if.
- If we don't write braces after if, we can write only one statement which is dependent on 'if'.
- We should not declare any statement in that sentence.

```
if(Condition) true or false
{

}
```

if-Syntax

```
if(Condition) true or false
{

}
else
{

}
```

if-else Syntax

```
if(Condition) true or false
{

}
else if(Condition) true or false
{

}
else
{

}
```

if-else-if Syntax

```
1  package com.pack1;
2
3  public class ClassA
4  {
5      void meth1(int i)
6      {
7          System.out.println("--------meth1()--------");
8          if(i<=10)
9          {
10             System.out.println("if block executed");
11         }
12         System.out.println("meth1() execution completed");
13     }
14     public static void main(String[] args)
15     {
16         ClassA aobj=new ClassA();
17         aobj.meth1('A');
18     }
19 }
```

```
--------meth1()--------
meth1() execution completed
```

```java
package com.pack1;

public class ClassA
{
    void meth1(int i)
    {
        System.out.println("--------meth1()--------");
        if(!(i<=10))
        {
            System.out.println("if block executed");
        }
        System.out.println("meth1() execution completed");
    }
    public static void main(String[] args)
    {
        ClassA aobj=new ClassA();
        aobj.meth1('A');
    }
}
```

```
--------meth1()--------
if block executed
meth1() execution completed
```

If we are not writing flower brasses “{ }” only one immediate statement is dependent on the condition. In these declarations are not allowed.

```java
public class ClassA
{
    void meth1(int i)
    {
        System.out.println("--------meth1()--------");
        if(!(i<=10))
        {
            System.out.println("if block executed");
        }
        System.out.println("meth1() execution completed");
    }
    void meth2(int i)
    {
        System.out.println("--------meth2()--------");
        if(i<=10)
            //int x=50;// C.E beacuse we should not write any declerative code in this line
            System.out.println("if block executed");
            System.out.println("meth2() execution completed");
    }
```

```
22    void meth3(int i) // i=10
23    {
24        System.out.println("--------meth3()--------");
25        if(i<=10)
26            if(i%2==0)
27                if(i<=5)
28                    System.out.println("The give number is either 2 or 4");
29                else
30                    System.out.println("The give number is between 6 or 10" );
31        System.out.println("meth3() execution completed");
32    }
```

```
33    void meth4(int i, int j)
34    {
35        System.out.println("--------meth4()--------");
36        if(i<=10)
37        {
38            System.out.println("if block executed");
39            if(j%2!=0)
40                System.out.println(j+" is odd number");
41            else
42                System.out.println(j+" is even number");
43        }
44        else
45        {
46            System.out.println("else block executed");
47        }
48        System.out.println("meth4() execution completed");
49    }
50    void checkEligibility(String name, int age)
```

```
51      {
52          System.out.println("Checking the age for marriage");
53          if(age>=29)
54          {
55              System.out.println(name+" you are eligible for marriage");
56          }
57          else
58          {
59              System.out.println(name+" it is recommended to wait for "+(29-age)+" years");
60          }
61      }
62      void meth6(int i)// i=100
63      {
64          System.out.println("--------meth6()--------");
65          if(!(i<=new ClassA().meth7()-60))
66          {
67              System.out.println("if block executed");
68              System.out.println("hi");
69          }

70              else
71              {
72                  System.out.println("else block executed");
73                  System.out.println("hello");
74              }
75              System.out.println("meth6() execution completed");
76      }
77      int meth7()
78      {
79          System.out.println("meth7() called");
80          return 'A';
81      }
82      boolean meth8(int i)
83      {
84          System.out.println("meth8() called");
85          return i==10;
86      }
87      void meth9(int i)
88      {
89          System.out.println("--------meth9()--------");
90          if(new ClassA().meth8(5))
91          {
```

```
92              System.out.println("meth8() is returning true");
93              System.out.println("if block executed");
94          }
95          else
96          {
97              System.out.println("meth8() is returning false");
98              System.out.println("else block executed");
99
100             if(i>0)
101                 System.out.println(i+" is positive number");
102             else if(i<0)
103                 System.out.println(i+" is negative number");
104             else
105                 System.out.println(i+" is equal to 0");
106         }
107     }
```

```
108     void meth10()
109     {
110         System.out.println("--------meth10()--------");
111         if(true)
112         {
113             System.out.println("hi");
114         }
115         else
116         {
117             System.out.println("hello"); // It is a DEAD CODE
118         }
119
120         System.out.println("meth10() execution completed");
121     }
```

```
122     public static void main(String[] args)
123     {
124         ClassA aobj=new ClassA();
125         //aobj.meth1('A');
126         //aobj.meth2(50);
127         //aobj.meth3(10);
128         //aobj.meth4(5, 9);
129         //aobj.checkEligibility("Ashish", 30);
130         //aobj.meth6(100);
131         //aobj.meth9(-5);
132     }
133 }
```