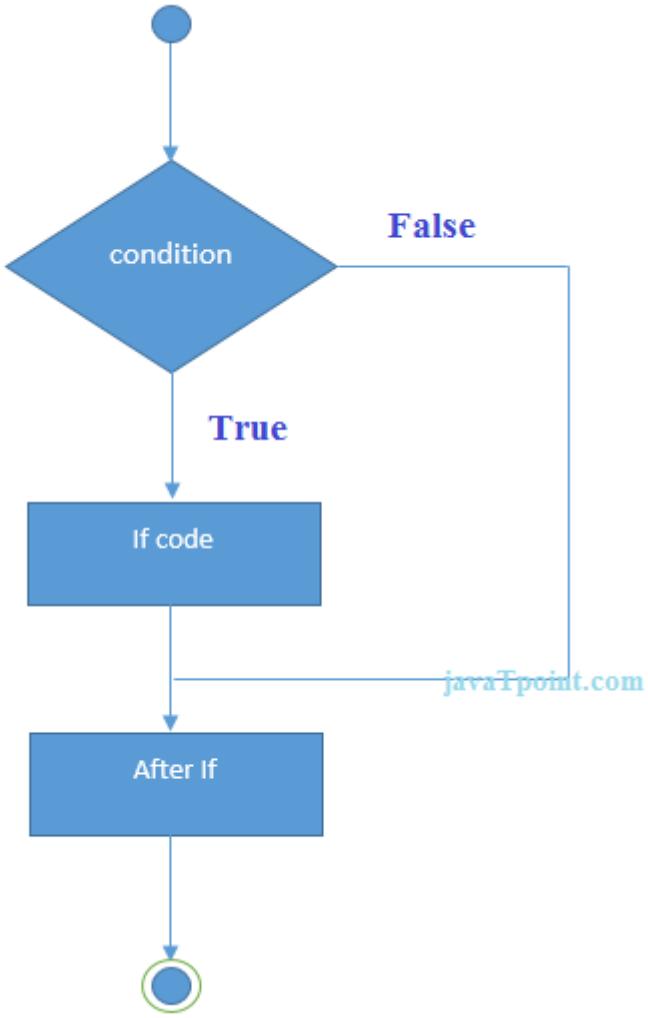
he Java *if statement* is used to test the condition. It checks boolean condition: *true* or *false*. There are various types of if statement in java.

- if statement
- if-else statement
- if-else-if ladder
- nested if statement

Syntax:

```
1. if(condition){
2. //code to be executed
3. }
```



Example:

```
1. //Java Program to demonstate the use of if statement.
2. public class IfExample {
3. public static void main(String[] args) {
```

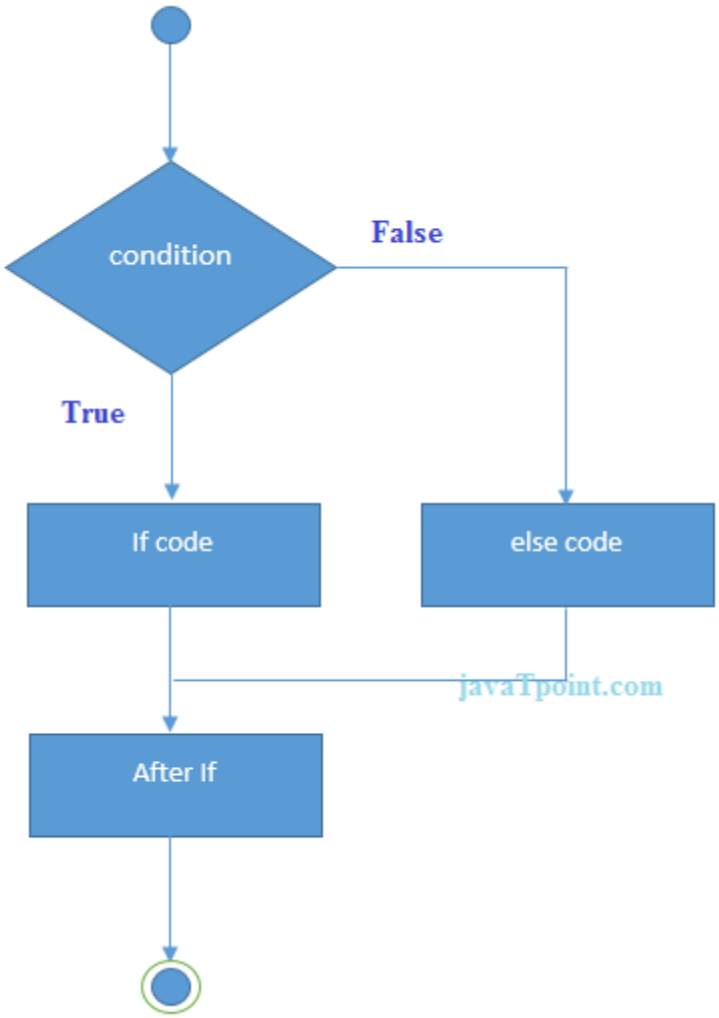
```
4.      //defining an 'age' variable
5.      int age=20;
6.      //checking the age
7.      if(age>18){
8.          System.out.print("Age is greater than 18");
9.      }
10. }
11. }
```

Java if-else Statement

The Java if-else statement also tests the condition. It executes the *if block* if condition is true otherwise *else block* is executed.

Syntax:

```
1.  if(condition){
2.  //code if condition is true
3.  }else{
4.  //code if condition is false
```



Example:

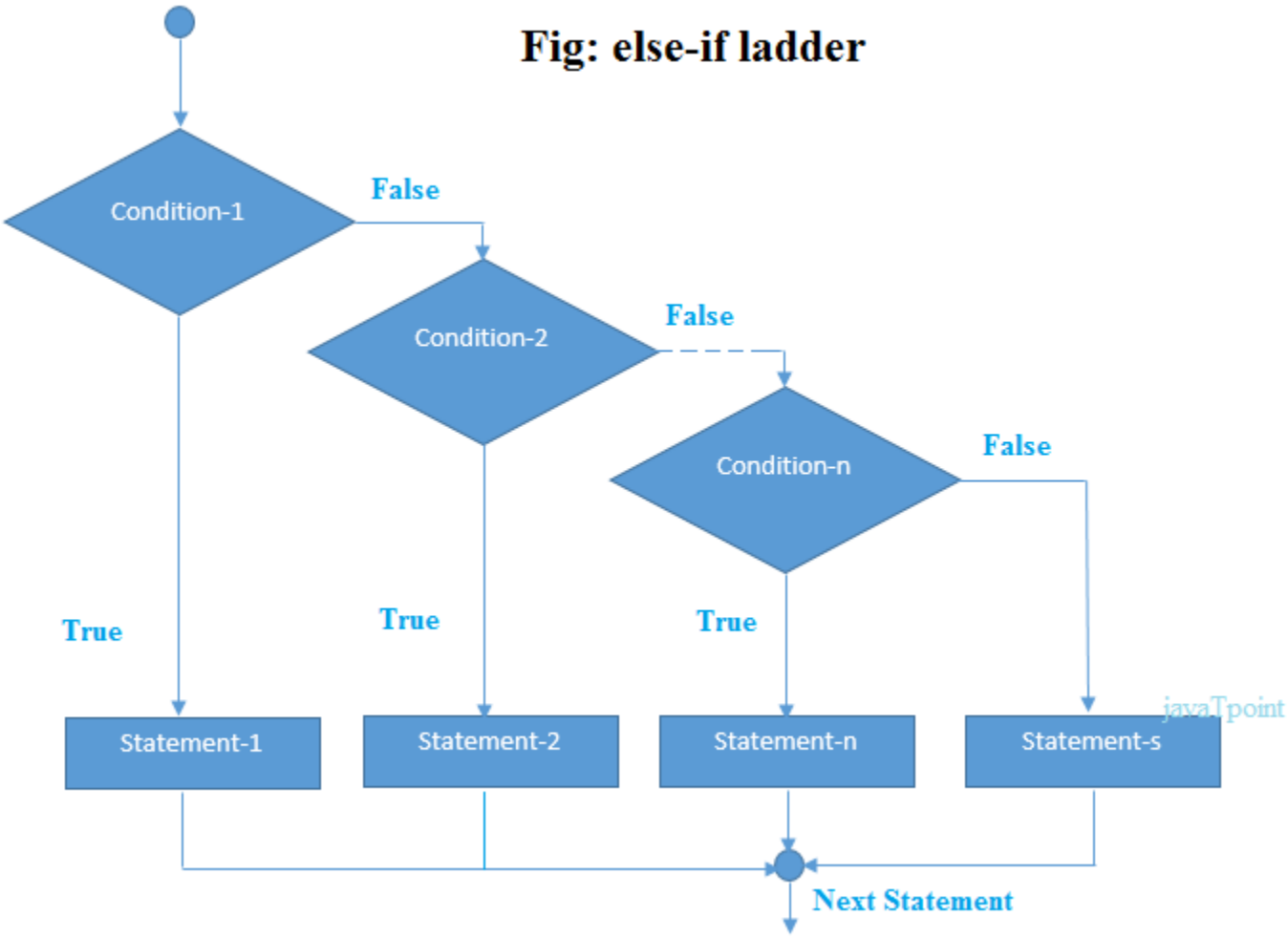
```
1.  //A Java Program to demonstrate the use of if-else statement.
2.  //It is a program of odd and even number.
3.  public class IfElseExample {
4.  public static void main(String[] args) {
5.      //defining a variable
6.      int number=13;
7.      //Check if the number is divisible by 2 or not
8.      if(number%2==0){
9.          System.out.println("even number");
10.     }else{
11.         System.out.println("odd number");
12.     }
13. }
14. }
```

Java if-else-if ladder Statement

The if-else-if ladder statement executes one condition from multiple statements.

Syntax:

```
if(condition1){
//code to be executed if condition1 is true
}else if(condition2){
//code to be executed if condition2 is true
}
else if(condition3){
//code to be executed if condition3 is true
}
...
else{
//code to be executed if all the conditions are false
}
```



Example:

```
1.  //Java Program to demonstrate the use of If else-if ladder.
2.  //It is a program of grading system for fail, D grade, C grade, B grade, A grade and A+.
3.  public class IfElseIfExample {
4.  public static void main(String[] args) {
5.      int marks=65;
6.
7.      if(marks<50){
8.          System.out.println("fail");
9.      }
10.     else if(marks>=50 && marks<60){
11.         System.out.println("D grade");
12.     }
13.     else if(marks>=60 && marks<70){
14.         System.out.println("C grade");
```

```
    }
    else if(marks>=70 && marks<80){
        System.out.println("B grade");
    }
    else if(marks>=80 && marks<90){
        System.out.println("A grade");
    }else if(marks>=90 && marks<100){
        System.out.println("A+ grade");
    }else{
        System.out.println("Invalid!");
    }
}
}
```

Output:

```
C grade
```

Java Nested if statement

The nested if statement represents the *if block within another if block*. Here, the inner if block condition executes only when outer if block condition is true.

Syntax:

```
if(condition){
    //code to be executed
        if(condition){
          //code to be executed
    }
}
```

Example:

```
//Java Program to demonstrate the use of Nested If Statement.
public class JavaNestedIfExample {
public static void main(String[] args) {
    //Creating two variables for age and weight
    int age=20;
    int weight=80;
    //applying condition on age and weight
    if(age>=18){
        if(weight>50){
            System.out.println("You are eligible to donate blood");
        }
    }
}}
```

Java Ternary Operator

Java Ternary operator is used as one liner replacement for if-then-else statement and used a lot in java programming. it is the only conditional operator which takes three operands.

Java Ternary Operator Example

```
1. class OperatorExample{
2. public static void main(String args[]){
3. int a=2;
4. int b=5;
5. int min=(a<b)?a:b;
6. System.out.println(min);
7. }}
```

```
int a=0;
//      String
s=a>0?"Positive":a<0?"negative":"Zero";
//      System.out.println(s);
```

```
int a=22;
        int b=14;
        int c=5;
        int temp=a>b?a:b;
        int s=c>temp?c:temp;
```

```
int a=2;
        int b=4;
        int c=5;
        int s=(a>b) ? (a>c)?a:c: b>c?b:c;
        System.out.println(s);
```

```
char op='+';
        int a=3;
        int b=2;
        int n = (op=='+')?a+b:(op=='-')?a-
b:op=='*'?a*b:0;
        System.out.println(n);
```