

14. Conditional Statements

The 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 as follows.

1. if statement
2. if-else statement
3. if-else-if ladder
4. nested if statement

14.1 if statement

It is the most basic statement among all control flow statements in Java. It evaluates a Boolean expression and enables the program to enter a block of code if the expression evaluates to true.

Syntax:

```
if(condition)
{
    Statements;
}
```

If Example Program:

```
public class IfExample
{
    public static void main(String[] args)
    {
        int x = 10;
        int y = 12;
        if(x+y > 20)
        {
            System.out.println("x + y is greater than 20");
        }
    }
}
```

Output:

```
x + y is greater than 20
```

14.2 if-else statement

The if-else statement is an extension to the if-statement, which uses another block of code, i.e., else block. The else block is executed if the condition of the if-block is evaluated as false.

Syntax:

```
if(condition)
{
    Statements;
}
else
{
    Statements;
}
```

If else Example Program:

```
public class IfElseExample
{
    public static void main(String[] args)
    {
        int x = 10;
        int y = 12;
        if(x+y < 10)
        {
            System.out.println("x + y is less than 10");
        }
        else
        {
            System.out.println("x + y is greater than 20");
        }
    }
}
```

Output:

```
x + y is greater than 20
```

14.3 if-else-if ladder

The if-else-if statement contains the if-statement followed by multiple else-if statements. In other words, we can say that it is the chain of if-else statements that create a decision tree where the program may enter in the block of code where the condition is true. We can also define an else statement at the end of the chain.

Syntax:

```
if(condition1)
{
    Statements;
}
else if(condition2)
{
    Statements;
}
```

```
Statements;  
}  
else  
{  
Statements;  
}
```

Ladder Example Program:

```
public class LadderExample  
{  
    public static void main(String[] args)  
    {  
        String city = "Delhi";  
        if(city == "Meerut")  
        {  
            System.out.println("city is meerut");  
        }  
        else if (city == "Noida")  
        {  
            System.out.println("city is noida");  
        }  
        else if(city == "Agra")  
        {  
            System.out.println("city is agra");  
        }  
        else  
        {  
            System.out.println(city);  
        }  
    }  
}
```

Output:

```
Delhi
```

14.4 Nested if Statement

In nested if-statements, the if statement can contain a if or if-else statement inside another if or else-if statement.

Syntax:

```
if(condition1)  
{  
Statements;  
if(condition2)  
{
```

```
Statements;  
}  
else  
{  
Statements;  
}  
}
```

Nested if Example Program:

```
public class NestedExample  
{  
    public static void main(String[] args)  
    {  
        String address = "Delhi, India";  
        if(address.endsWith("India"))  
        {  
            if(address.contains("Meerut"))  
            {  
                System.out.println("Your city is Meerut");  
            }  
            else if  
            (address.contains("Noida"))  
            {  
                System.out.println("Your city is Noida");  
            }  
            else  
            {  
                System.out.println(address.split(",")[0]);  
            }  
        }  
        else  
        {  
            System.out.println("You are not living in India");  
        }  
    }  
}
```

Output:

```
Delhi
```