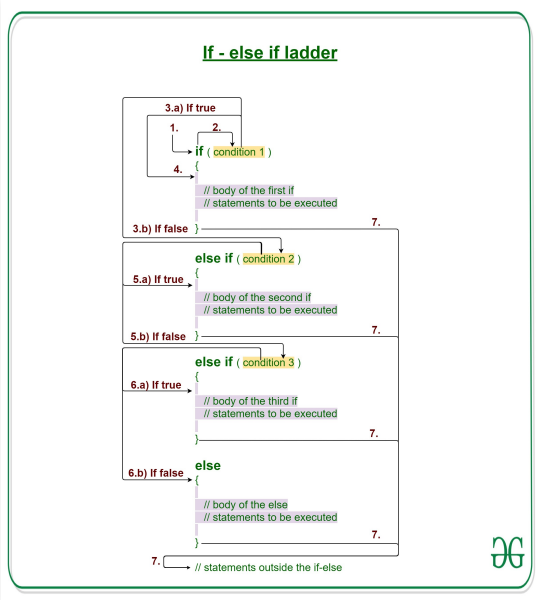
Java if-else-if ladder with Examples

Difficulty Level : Basic Last Updated : 22 Nov, 2019

Decision Making in Java helps to write decision driven statements and execute a particular set of code based on certain conditions.

Java if-else-if ladder is used to decide among multiple options. The if statements are executed from the top down. As soon as one of the conditions controlling the if is true, the statement associated with that if is executed, and the rest of the ladder is bypassed. If none of the conditions is true, then the final else statement will be executed.



Syntax:

```
if (condition)
    statement 1;
else if (condition)
    statement 2;
.
.
else
    statement;
```

Working of the if-else-if ladder:

1. Control falls into the if block.
2. The flow jumps to Condition 1.
3. Condition is tested.

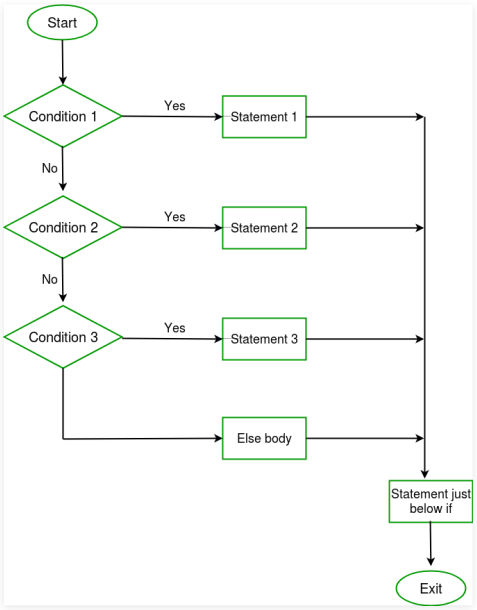
a. If Condition yields true, goto Step 4.
b. If Condition yields false, goto Step 5.

4. The present block is executed. Goto Step 7.
5. The flow jumps to Condition 2.
   a. If Condition yields true, goto step 4.
   b. If Condition yields false, goto Step 6.

6. The flow jumps to Condition 3.
   a. If Condition yields true, goto step 4.
   b. If Condition yields false, execute else block.
      Goto Step 7.

7. Exit the if-else-if ladder.

Flowchart if-else-if ladder:



Example 1:

```
// Java program to illustrate if-else-if ladder

import java.io.*;

class GFG {
    public static void main(String[] args)
    {
        // initializing expression
        int i = 20;
```

```
        // condition 1
        if (i == 10)
            System.out.println("i is 10\n");

        // condition 2
        else if (i == 15)
            System.out.println("i is 15\n");

        // condition 3
        else if (i == 20)
            System.out.println("i is 20\n");

        else
            System.out.println("i is not present\n");

        System.out.println("Outside if-else-if");
    }
}
```

Output:

```
i is 20

Outside if-else-if
```

Dry running Example 1:

```
1. Program starts.
2. i is initialized to 20.
3. condition 1 is checked. 20 == 10, yields false.
4. condition 2 is checked. 20 == 15, yields false.
5. condition 3 is checked. 20 == 20, yields true.
  5.a) "i is 20" gets printed.
6. "Outside if-else-if" gets printed.
7. Program ends.
```

Example 2:

```
// Java program to illustrate if-else-if ladder

import java.io.*;
```

```
class GFG {
    public static void main(String[] args)
    {

        // initializing expression
        int i = 20;

        // condition 1
        if (i < 10)
            System.out.println("i is less than 10\n");

        // condition 2
        else if (i < 15)
            System.out.println("i is less than 15\n");

        // condition 3
        else if (i < 20)
            System.out.println("i is less than 20\n");

        else
            System.out.println("i is greater than "
                               + "or equal to 20\n");

        System.out.println("Outside if-else-if");
    }
}
```

Output:

```
i is greater than or equal to 20


Outside if-else-if
```

Related Articles:

1. Decision Making in Java
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3. Java if-else statement with Examples
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6. return keyword in Java