

CONTROL-FLOW STATEMENTS

Control Flow statements in programming control the order of execution of statements within a program. They allow you to make decisions, repeat actions, and control the flow of your code based on conditions.

Types of control flow statements

1. Conditional or Decision Making statements (if-else and switch)
2. Looping statements (for, while, and do-while)
3. Branching statements (break and continue)

1. Conditional statements **if-else** :

The **if-else** statement allows you to execute a block of code conditionally.

If the condition inside the **if** statement is true, the code inside the **if** block is executed;

otherwise, the code inside the **else** block is executed.

Syntax of if-else :

```
int age = 30;
if(age >18) {
    System.out.println("Adult");//executes if condition is true
}else {
    System.out.println("Abhi chote ho");//condition false
}
```

If-Else-If Ladder :

"If-Else-If" ladder consists of an if statement followed by multiple else-if statements. It is used to evaluate a condition using multiple statements. The chain of if statements are executed from the top-down.

It checks each if condition, and as soon as one of the if condition yields true, it executes the statement inside that if block and **skip the rest of the ladder**. If none of the conditions evaluates to be true, then the program executes the statement of the final **else** block.

For example :

```
int number = 10;
if (number % 2 == 0) {
    System.out.println("Number is even.");
}
else if (number % 2 != 0) {
    System.out.println("Number is odd.");
}
else {
    System.out.println("Invalid input.");
}
```

Output : Number is even

If Ladder :

"If" ladder consists of an multiple if statements. It is used to evaluate a condition using multiple statements. The chain of if statements are executed from the top-down.

The program checks each if condition, and as soon as one of the if condition yields true, it executes the statement inside that if block and **still check further conditions**. If none of the conditions evaluates to

be true, then the program executes the statement of the final **else** block.

```
int number = 10;
if (number > 0) {
    System.out.println("Number is positive.");
}
if (number < 20) {
    System.out.println("Number is less than 20.");
}
if (number % 2 == 0) {
    System.out.println("Number is even.");
}
```

Output : Number is positive

Number is less than 20.;

Number is even.