Conditional Statements

Programming in Java

Flow of Control

1. Sequence:

- Unless specified otherwise, the order of statement execution is linear/sequential
- One statement after the other, in sequence

2. Conditional statements:

- A statement may or may not be executed depending on some condition

3. Repetition statements (loops):

- A statement is executed over and over, repetitively, until some condition becomes true or false

- These decisions are based on a **Boolean expression** (also called a *condition*) that evaluates to true or false
- The order of statement execution is called the **flow of control**

Contents

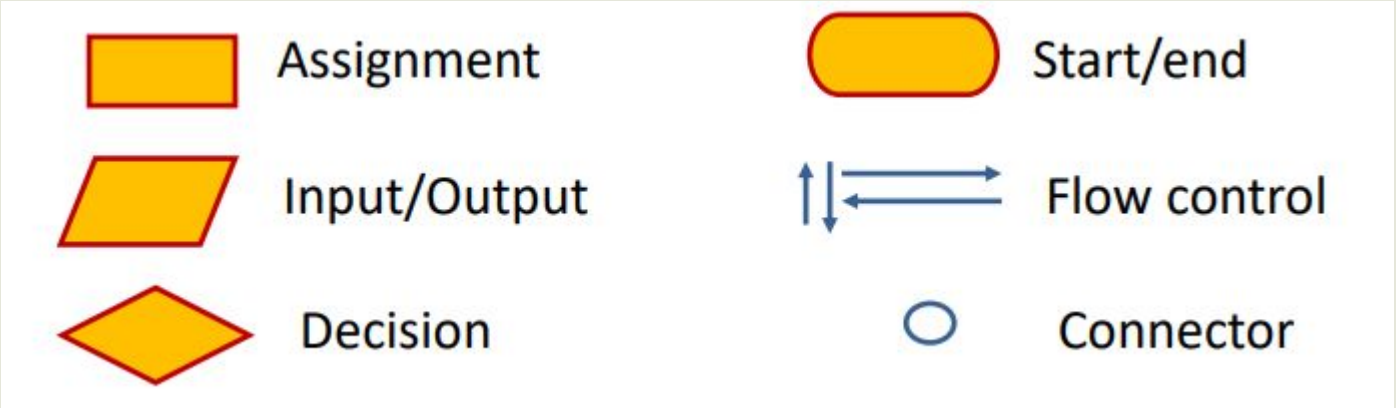
Conditional statements

- Let us choose which statement will be executed next
- Sometimes called ***selection statements***
- Java has 3 conditional statements:
  - the **if** statement
  - the **if-else** statement
  - the **switch** statement

Flowchart

- A flowchart is a graphical way of representing an algorithm.

- Use the following symbols:



1- The **if** statement

- syntax:

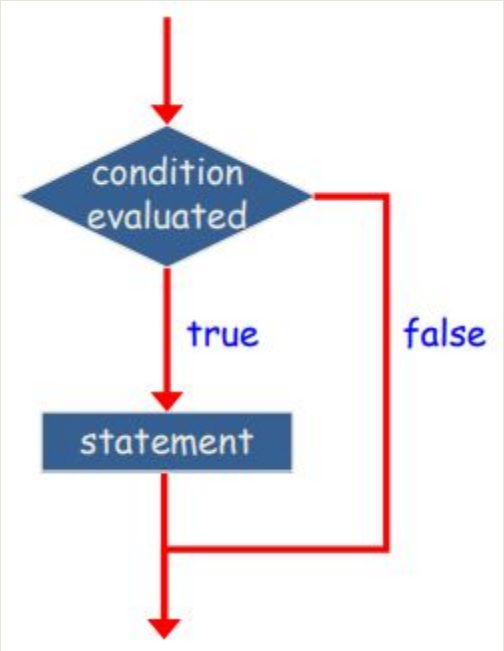
`if` is a Java reserved word

The *condition* is a Boolean expression. (evaluates to either true or false)

```
if ( condition )
    statement;
```

If the *condition* is true, the *statement* is executed.
If it is false, the *statement* is skipped.

1- The **if** statement: Logic of an if statement



1- The **if** statement: Example (Age.java)

```
System.out.print("Enter the sum: ");
int sum = myKeyboard.nextInt();
int delta = 0;

if (sum >= 100)
   delta = 5;

System.out.println("Delta is " + delta);
```

Output

1- The **if** statement: Example (Age.java)

```
final int MINOR = 18;
System.out.print("Enter your age: ");
int age = myKeyboard.nextInt();

if (age < MINOR)
    System.out.println("wonderful");
System.out.println("Oh well!");
```

Output

1- The **if** statement: Exercises

- Write a Java program to get a number from the user and print whether it is positive or negative.

- Write a Java program to solve quadratic equations by using if statements.

- Write a Java program that takes three numbers from the user and print the greatest number.