

Lecture 26

Java – if / else Statement

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| Revise

- Pseudocode
- Flowchart
- Relational operator
- If statement
 - Surround **condition** with **parenthesis**
 - No **then** keyword after condition
 - No **semicolon** after if statement
 - If only one statement to be executed, just write the statement
 - If **many**, use the begin and end **braces**

| if-else statement

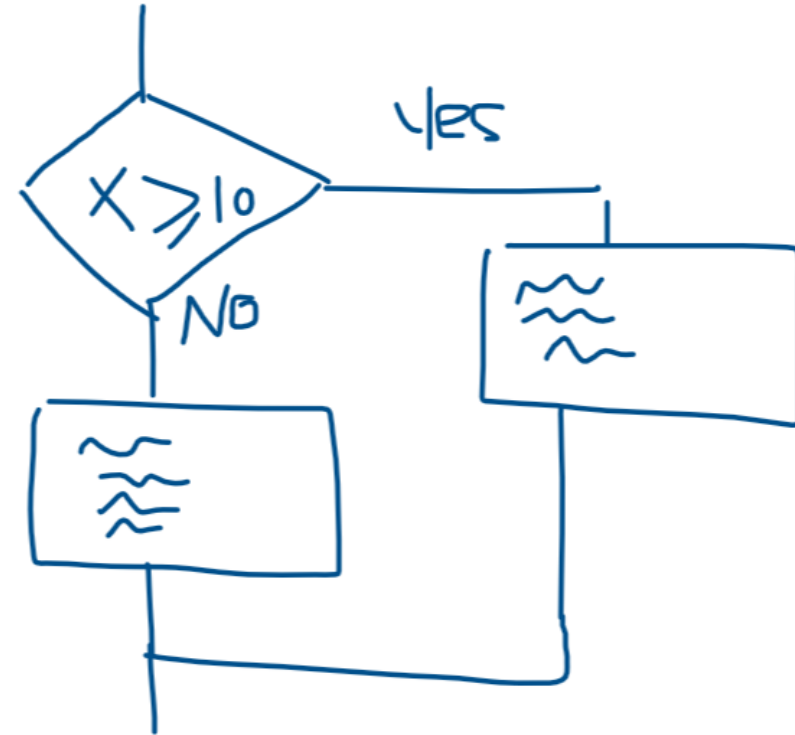
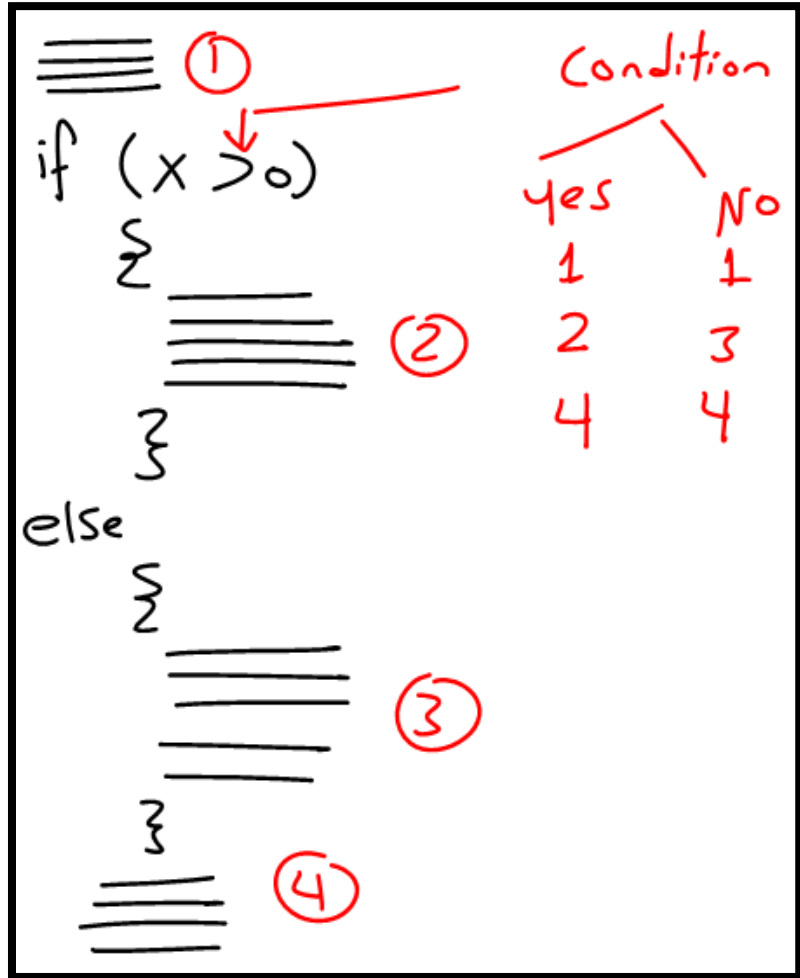
- In programs, as in everyday life, **things can sometimes go in one of two different ways.**
- If you have **money in your checking account**, some banks will pay you a **little interest**. On the other hand, if you have **overdrawn** your checking account, your account balance is **negative**, and you will be **charged a penalty** that will make your balance even more negative

```
if (balance >= 0)
    balance = balance + (INTEREST_RATE * balance) / 12;
else
    balance = balance - OVERDRAWN_PENALTY;
```

| if-else statement

- If the **weather is good**, we will **go for a walk**, **otherwise** we will **go to a theater**.
- Now we know **what we'll do if the conditions are met**, and we know what **we'll do if not everything goes our way**. In other words, we have a "**Plan B**".
- java allows us to express such alternative plans. This is done with a second, slightly more complex form of the conditional statement, the **if-else statement**:

| if-else statement



| Pass / Fail

| Even / Odd

| Quadratic equation

$$ax^2 + bx + c = 0$$
$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

| Two-branch function

$$y(x) = \begin{cases} x^2 + 7 & x \leq 4 \\ x + 19 & \textit{otherwise} \end{cases}$$

| References

- Java: How to Program, 9th Edition (Deitel) 9th Edition by Paul Deitel , Harvey M. Deitel
- Head First Java, 2nd Edition 2nd Edition by Kathy Sierra, Bert Bates
- Think Java: How to Think Like a Computer Scientist 1st Edition by Allen B. Downey, Chris Mayfield