LEC 09

CSE 121

Conditionals

BEFORE WE START

Talk to your neighbors:

How are you doing? (like, actually)

Music: ❄ CSE 121 26wi Lecture Tunes ❄

Instructor: Miya Natsuhara

TAs:

Amogh	Hayden	Anum	Sam	Shayna
William	Aki	Abdul	Ethan	Jesse
Johnathan	Spencer	Janvi	Jessica	Minh
Anant	Savannah	Navya	Paul	Cayden
Reese	Tamsyn	Ruslana	Carson	

Questions during Class?

Raise hand or send here

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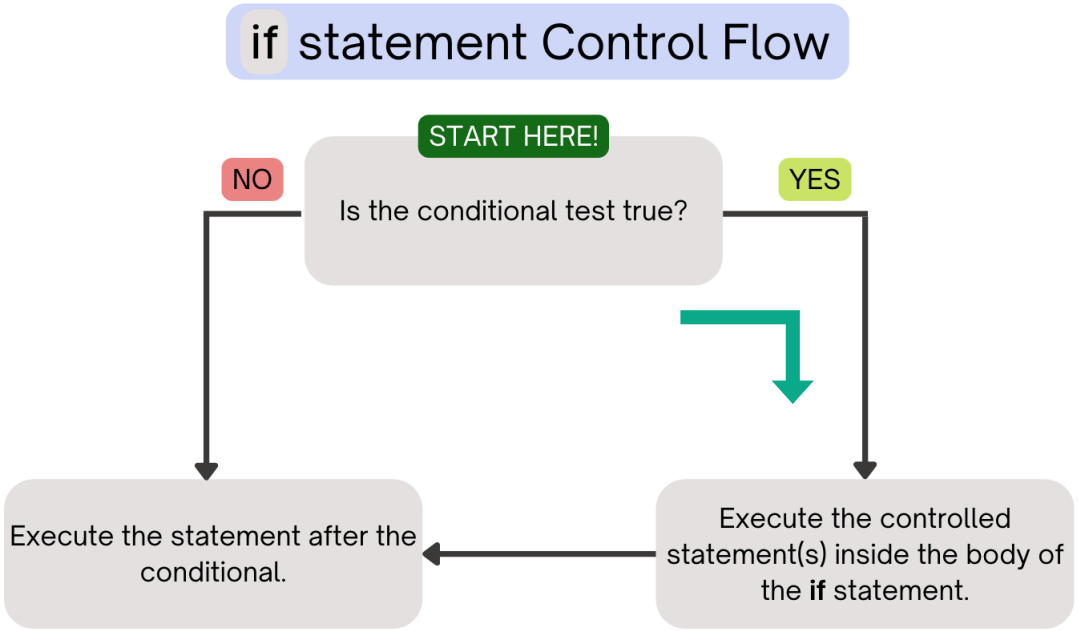
Announcements, Reminders

- **C2** released, due **Thursday, Feb 12th**
- **R2** out yesterday, due **Thursday, Feb 12th**
  - this is the last time C0 is eligible for resubmission
  - "Re-resubmissions" post
- Quiz reminders:
  - Quiz 0 grades – we're working on it!
  - Quiz 1 is on **Thursday, Feb 19th**

PCM Review: if Statements

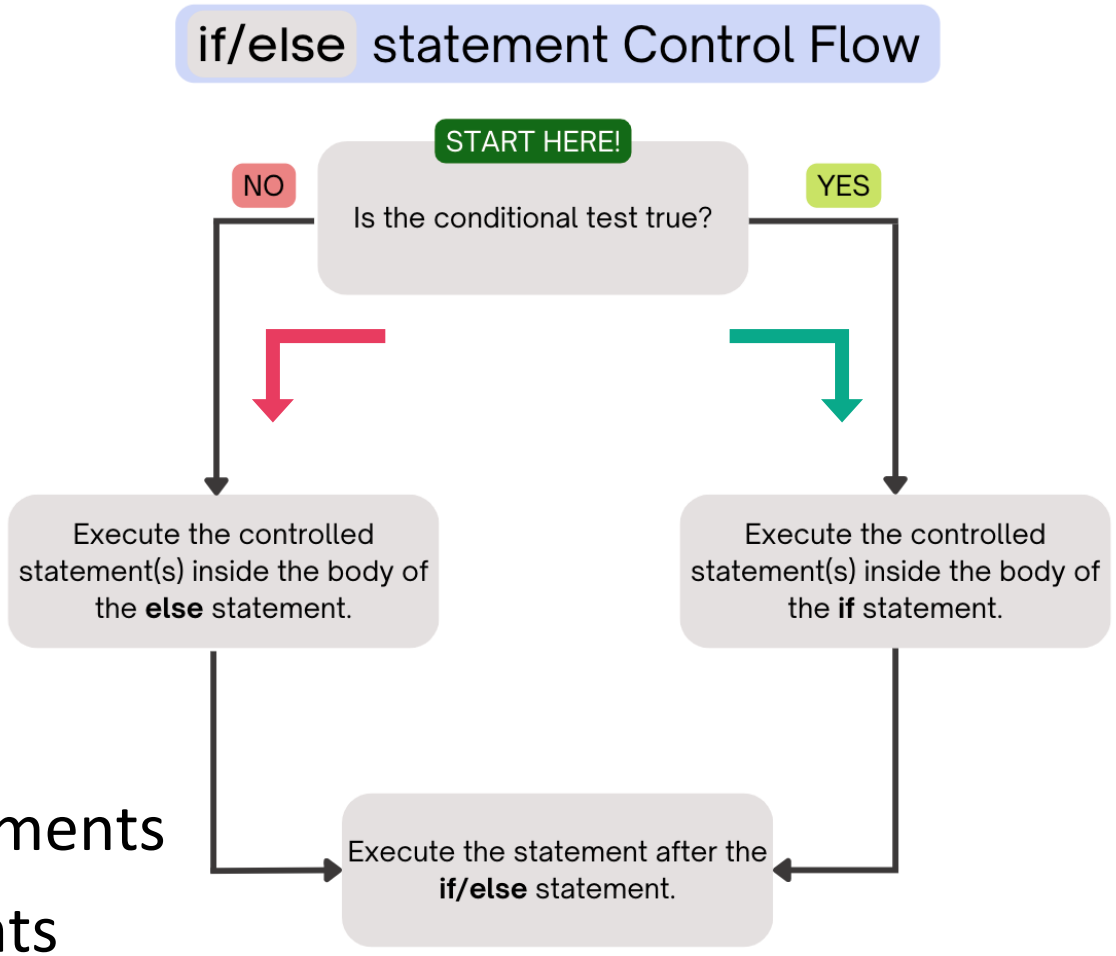
```
if (test) {
    body (statements to be executed)
}
```



Executes a block of statements
if and only if the test is **true**

PCM Review: if-else

```
if ( test ) {
        statement(s)
} else {
        statement(s)
}
```

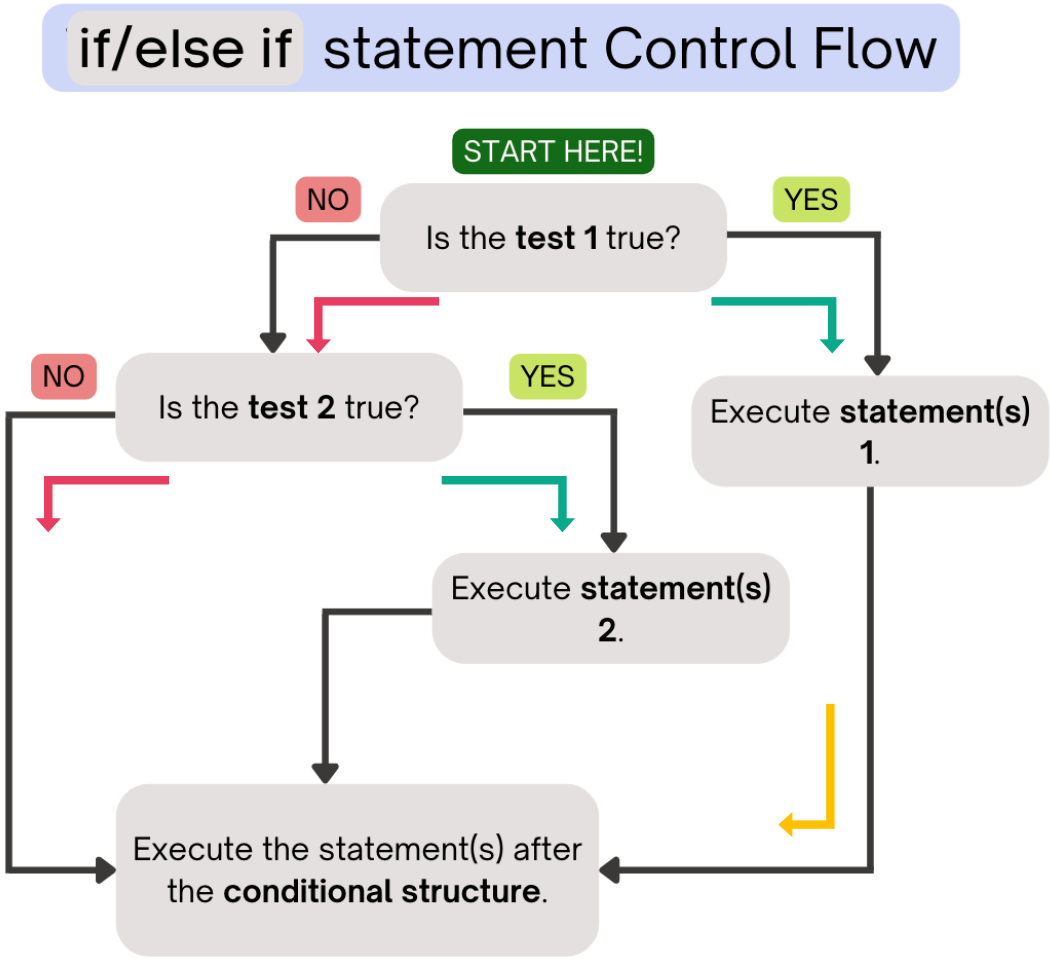


1. If the test is **true**: execute block of statements
2. If **false**, execute other block of statements

PCM Review: if-else if

```
if ( test ) {
        statement(s)
} else if (test) {
        statement(s)
}
```

1. If the first test is **true**, execute that block
2. If not, proceed to the next test, and repeat
3. If none were true, don't execute any blocks



Note After entering an if /else if block, ***skip*** all remaining blocks.

Practice: Think

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```
public static void main(String[] args) {
  for (int i = 1; i <= 3; i++) {
    System.out.print(mystery(i));
  }
}
public static String mystery(int n) {
  String response = "even ";
  if (n % 2 == 1) {
    response = "odd ";
  } else if (n == 1) {
    response = "one ";
  }
  return response;
}
```

What does this program output?

A. odd even odd

B. one even odd

C. one even even

D. even even even

Practice: Pair

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```
public static void main(String[] args) {
  for (int i = 1; i <= 3; i++) {
    System.out.print(mystery(i));
  }
}
public static String mystery(int n) {
  String response = "even ";
  if (n % 2 == 1) {
    response = "odd ";
  } else if (n == 1) {
    response = "one ";
  }
  return response;
}
```

What does this program output?

A. odd even odd

B. one even odd

C. one even even

D. even even even

"Useless" Conditionals

```
public static void main(String[] args) {
  for (int i = 1; i <= 3; i++) {
    System.out.print(mystery(i));
  }
}
public static String mystery(int n) {
  String response = "even ";
  if (n % 2 == 1) {
    response = "odd ";
  } else if (n == 1) {
    response = "one ";
  }
  return response;
}
```

This else if statement never runs!

Common Problem-Solving Strategies

- **Analogy** – Is this similar to another problem you've seen?
- **Brainstorming** – Consider steps to solve problem before jumping into code
  - Try to do an example "by hand", then outline steps
- **Solve sub-problems** – Is there a smaller part of the problem to solve?
- **Debugging** – Does your solution behave correctly?
  - What is it doing?
  - What do you expect it to do?
  - What area of your code controls that part of the output?
- **Iterative Development** – Can we start by solving a different problem that is easier?