

# CSE 121 – Lesson 9

Miya Natsuhara

Autumn 2023

Music: [121 23au Lecture Tunes](#) 



[sli.do #cse121](https://sli.do/#cse121)

TAs:	Trey	Christina	Sahej	Vinay	Kriti
	Sebastian	Colton	Anju	Maria	Minh
	Annie	Janvi	Jonus	Shreya	Vivian
	Jasmine	Arkita	Lydia	Andy	Nicole
	Christian	Vidhi	Luke	Nicolas	Simon
	Lucas	Ritesh	Andras	Shayna	Jessie
	Logan	Hibbah	Archit	Hannah	Lydia
	Jacob	Julia	Ayesha	Aishah	Yijia

# Announcements, Reminders

- Creative Project 2 released – due Tuesday, Oct 31 🎃
- Resubmission Cycle 2 form released
  - Note: this is the last time C0 is eligible for resubmission.
- Quiz 1 on Thursday, Nov 2 in quiz section
- Mid-Quarter Formative Feedback with Ken Yasuhara for part of class on Wednesday, Nov 1

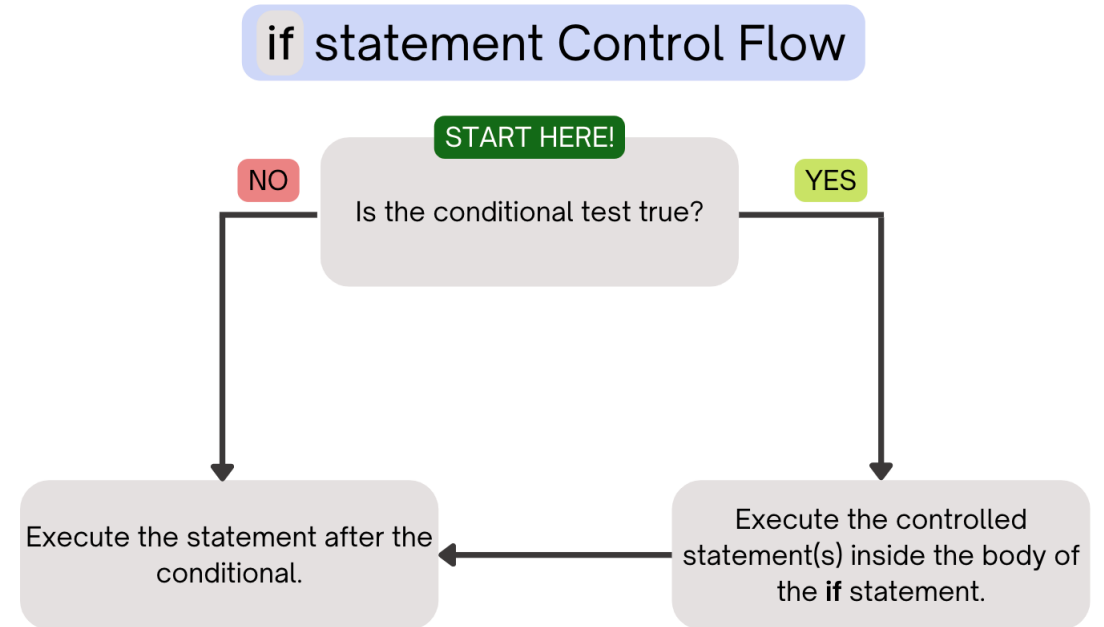
# Common Problem-Solving Strategies

- **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" → 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?

# (PCM) Conditionals

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

Executes a block of statements only if the test is true

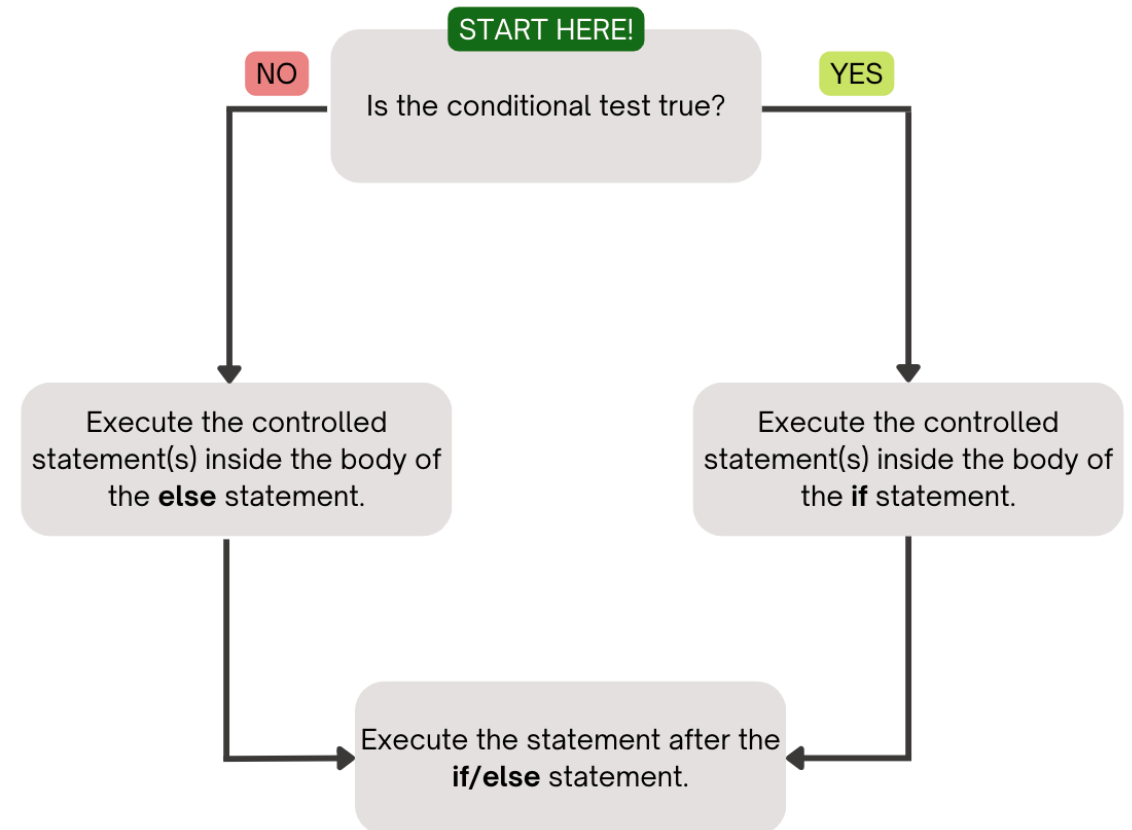


# (PCM) Conditionals

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

Executes a block of statements if the test is true, executes another block of statements if the test is false

## if/else statement Control Flow



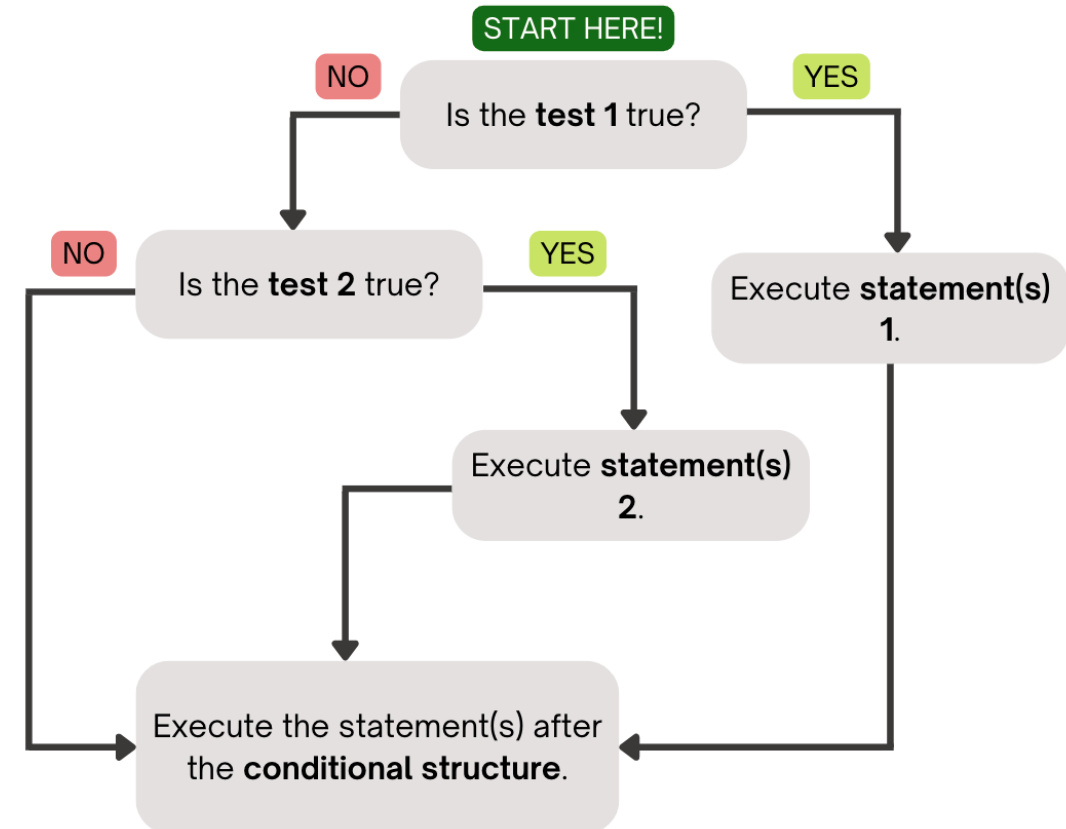
# (PCM) Conditionals

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

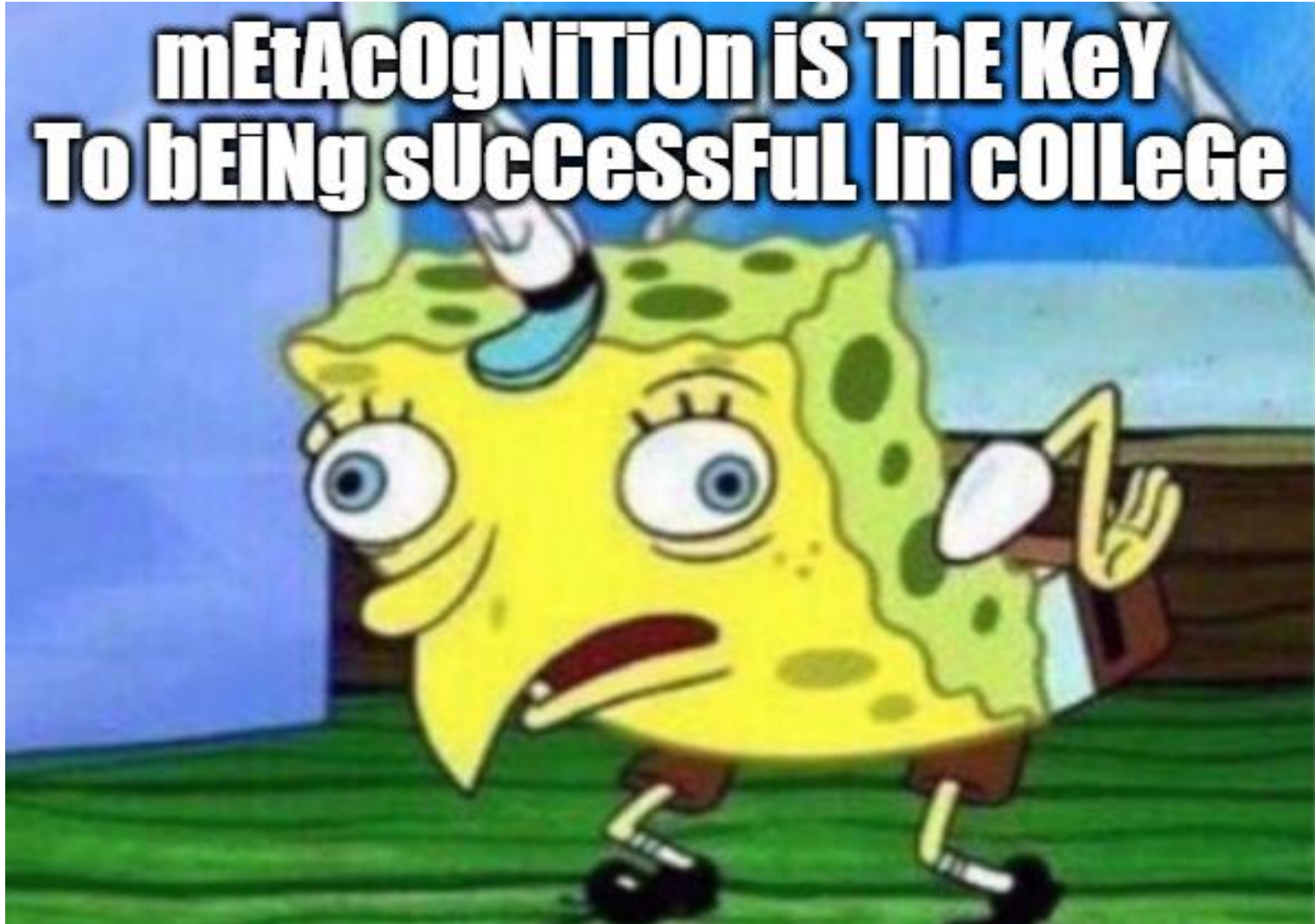
Chooses between a block of statements to execute out of multiple choices, depending on which test it passes

- If it ends in an else, exactly one block will be executed.
- If it ends in an else if, at most one block will be executed, but the code also may not execute any blocks of statements.

## if/else if statement Control Flow



**mEtAcOgNiTiOn iS ThE Key  
To bEiNg sUcCeSsFuL In cOLLeGe**



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# Poll in with your answer!



What is the output produced by executing this code?

```
int a = 7;
int b = -1;
int c = 12;
if (a < b) {
    a *= 2;
} else if (b < a) {
    a /= 2;
} else {
    a = c;
}
if (c % 2 == 0) {
    c += 1;
}
if (b > 0) {
    b *= -1;
} else if (a < 0) {
    a *= -1;
}
System.out.println(a + " " + b + " " + c);
```

A. 7 -1 12

B. -3 -1 13

C. 3 -1 13

D. 12 1 12

E. -14 1 13