

LEC 10

CSE 121

While Loops

BEFORE WE START

*Talk to your neighbors:**What's your favorite spot
on the Ave?*Music: 🎷 [CSE 121 25au Lecture Tunes](#) 🎵**Instructors:** Brett Wortzman & James Weichert

TAs:	Trey	Ava	Caleb	Elden	Anya
	Amogh	Reese	Anum	Suyash	Minh
	Samrutha	Hayden	Abdul	Sthiti	TJ
	Dalton	Aki	Janvi	Paul	Zach
	Ailsa	Spencer	Navya	Shayna	Cayden
	Ryan	Savannah	Sam	Jesse	Johnathan
	Anant	Tamsyn	Jessica	Nhan	

Questions during Class?

Raise hand or send here

sli.do #cse121



Agenda

- **Announcements, Reminders** ←
- while loop review
- Flipping coins and rolling dice!

Announcements, Reminders

- C2 due **Thursday, October 30th**
- R2 due **Thursday, October 30th**
 - Eligible: **C0**, P0, C1, P1
 - Note: C0 is cycling out of eligibility for resubmission
- P2 out tonight, due **Tuesday, November 11th**
- Quiz reminders:
 - Quiz 0 feedback coming this week!
 - Quiz 1: **Thursday, November 6th**

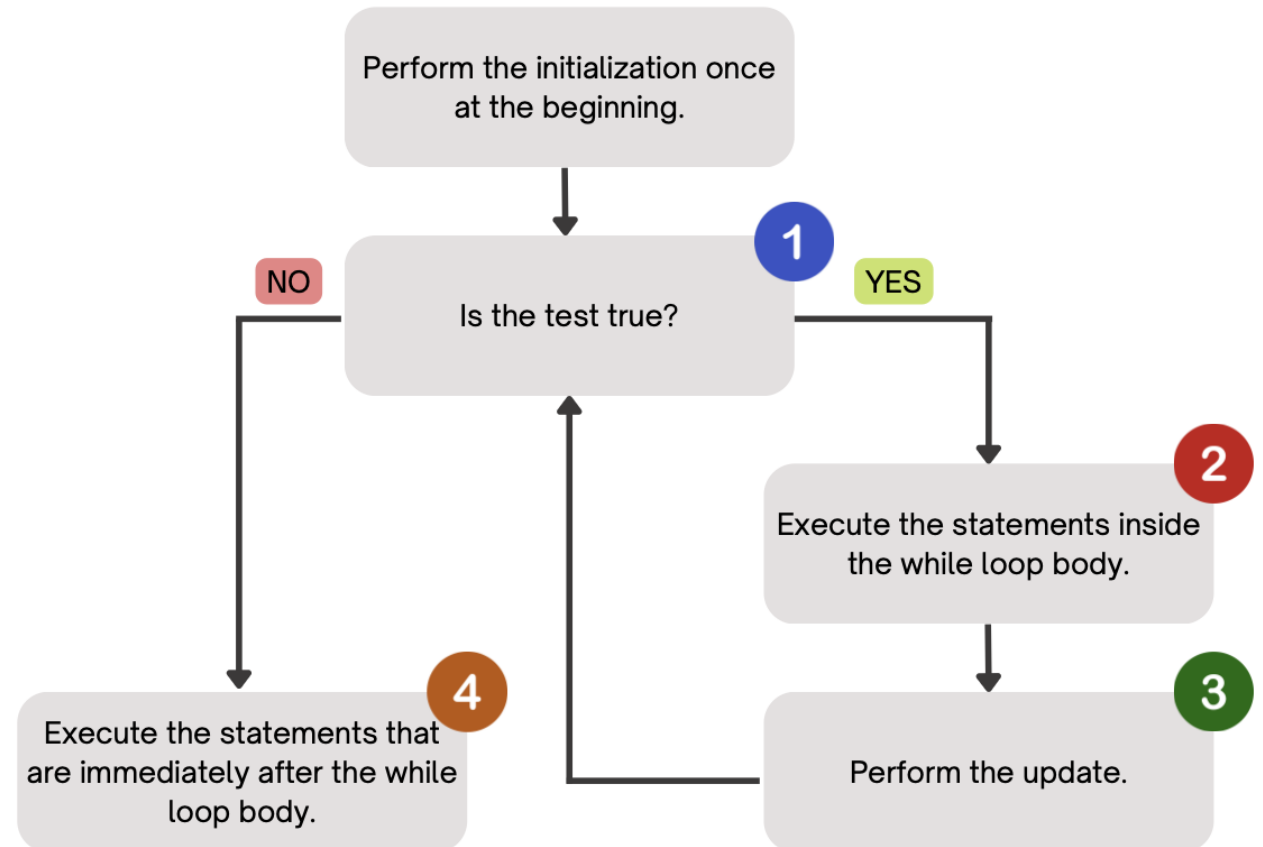
Agenda

- Announcements, Reminders
- **while loop review** ←
- Flipping coins and rolling dice!

PCM Review: while loops

```
while (test) {  
    body (statements to be repeated)  
}
```

Repeatedly executes its body
as long as the logical test is
true.





Practice: Think



sli.do

#cse121

```
public static void mystery(Random randy,
                           int lucky) {

    int roll = -1; // "priming" the loop
    int x = -1;

    while (roll != lucky) {
        roll = randy.nextInt(20) + 1;
        if (x < roll) {
            x = roll;
        }
    }
    System.out.println("Lucky number "
                       + x);
}
```

How would you describe what the variable x calculates?

- A. The largest value rolled
- B. The smallest value rolled
- C. The first value rolled
- D. The last value rolled
- E. The sum of all values rolled



Practice: Pair

sli.do

#cse121

```
public static void mystery(Random randy,
                           int lucky) {

    int roll = -1; // "priming" the loop
    int x = -1;

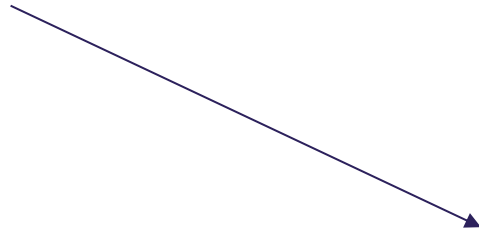
    while (roll != lucky) {
        roll = randy.nextInt(20) + 1;
        if (x < roll) {
            x = roll;
        }
    }
    System.out.println("Lucky number "
                       + x);
}
```

How would you describe what the variable x calculates?

- A. The largest value rolled
- B. The smallest value rolled
- C. The last value rolled
- D. The first value rolled
- E. The sum of all values rolled

for loops are while loops?

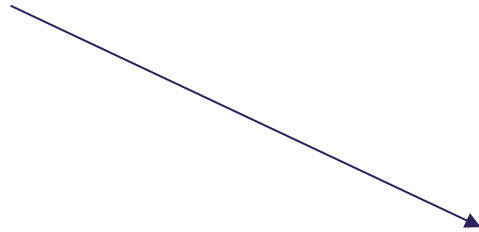
```
for (int i = 0; i < bigYikes; i++) {  
    // ...  
}
```



```
int i = 0;  
while (i < bigYikes) {  
    // ...  
  
    i++;  
}
```


for loops are while loops! (almost*)

```
for (int i = 0; i < bigYikes; i++) {  
    // ...  
}
```



```
int i = 0;  
while (i < bigYikes) {  
    // ...  
    i++;  
}
```

*as a technical note, these aren't exactly the same – there are some minor technical details that are different, most notably the scope of `i` is different in the two loops

for loops vs. while loops

For loops and while loops are quite similar! This is the first (but certainly not the last) time where you need to decide which to use!

There's not always a “correct” answer, but some advice:

- is the condition definite or indefinite
- Describing the problem!
 - “I will do __ X times” or “for each __ I will __” – sounds like for!
 - “I will do __ until” or “while __ is true, I will” – sounds like while!
- it's okay to change your mind after you try one approach!

Agenda

- Announcements, Reminders
- while loop review
- **Flipping coins and rolling dice! ←**