

LEC 11

CSE 121

User Input (Scanner)

Questions during Class?

Raise hand or send here



sli.do #cse121



BEFORE WE START

Talk to your neighbors:

If you had to compete in one Olympic sport, what would it be?

Music:  [CSE 121 26sp Lecture Tunes](#) 

Instructor: Matt Wang

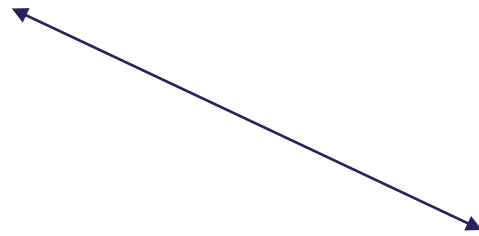
TAs: Abdul Amogh Anant Anum Cayden
Dalton Ethan Hayden Jesse Jessica
JohnathanMinh Navya Paul Reese
Ruslana Sam Savannah Spencer Shayna
Tamsyn TJ Trey

Announcements, Reminders

- P2 due **Tuesday, May 19th**
- R3 out yesterday and due **Thursday, May 14th**
 - **P0**, C1, P1, C2 eligible
 - last opportunity to resubmit P0
- Quiz 1 is **Thursday, May 14th**, in your registered quiz section
 - resources posted on Ed last night!
 - topics: for loops, nested for loops, Random, Math, methods, parameters, returns, conditionals, `while` loops
- Canvas outage mostly doesn't affect us – recordings available via Panopto *from course website* (but let us know if you see issues!)

for loops are while loops?

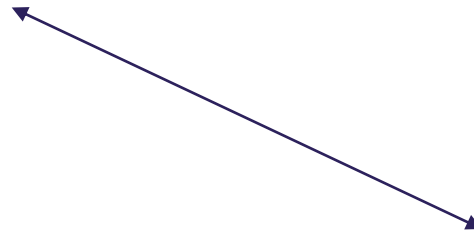
```
for (int i = 0; i < bigYikes; i++) {  
    // ...  
}
```



```
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!

PCM Review: Scanner

An **object** that we can use to *read in input*
In the `java.util` “package”!

`Scanner` `console` = `new Scanner(System.in);`
type name Scanner construction code

Methods	Description
<code>nextInt()</code>	Reads the next token from the user as an <code>int</code> and returns it.
<code>nextDouble()</code>	Reads the next token from the user as a <code>double</code> and returns it.
<code>next()</code>	Reads the next token from the user as a <code>String</code> and returns it.
<code>nextLine()</code>	Reads an <i>entire line</i> from the user as a <code>String</code> and returns it.

PCM Review: Tokens

A unit of user input, as read by the Scanner

Tokens are separated by *whitespace* (spaces, tabs, new lines)



PCM Review: InputMismatchException

Exceptions are errors that occur *while a program is running* that stops the program from running.

There are different types of exceptions that can occur, and the **name of the exception** can help you understand what caused the error!

An **InputMismatchException** occurs when the Scanner tries to read input in as a specific type, but the input cannot be interpreted as that type.

(e.g., trying to read in "hello" as an `int`)



Practice: Think

sli.do

#cse121

When calling the following method, which of these user inputs would not cause an error? (choose multiple)

```
public static void cornbear() {  
    Scanner console = new Scanner(System.in);  
    int amt = console.nextInt();  
    String firstName = console.next();  
    String secondName = console.next();  
    double price = console.nextDouble();  
}
```

- A. 6 Gumball's Treats \$12.48
- B. 3 Sesame Latte 16.47
- C. 2 The Hunger Games 21.98
- D. 4 Gumballs 900.24
- E. 2 Grammy Awards 90095



Practice: Pair

sli.do

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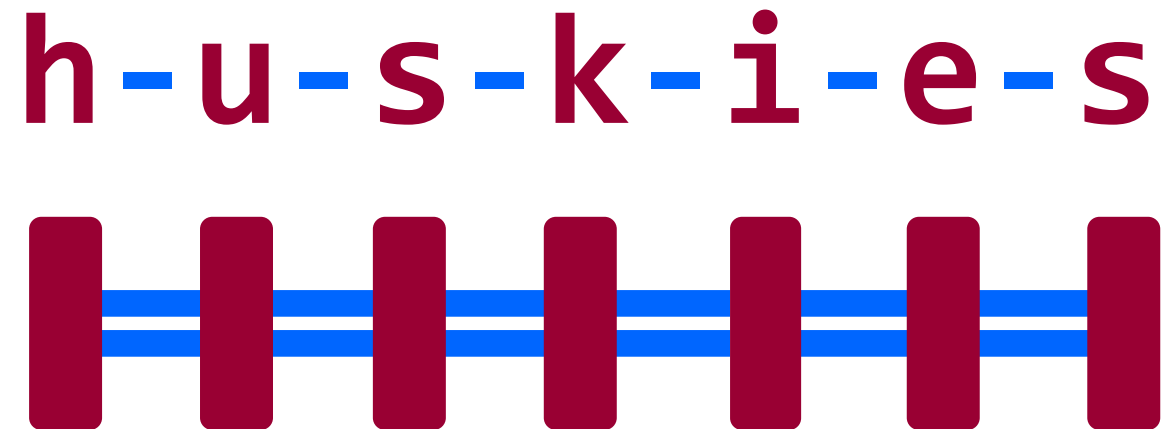
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Reminder: Fencepost Pattern

Some task where one piece is repeated n times, and another piece is repeated $n-1$ times and they alternate



Fencepost Pattern ... for User Input?

Some task where one piece is repeated n times, and another piece is repeated $n-1$ times and they alternate

