CSE 121 – Lesson 5

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Music: 🌸k-pop girlies playlist🌸

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Announcements, Reminders

• Creative Assignment 1 released Wednesday
  • Due Tuesday, July 11th 11:59 PM

• Resubmission Cycle 1 was released yesterday, due next Thursday 11:59 PM

• Quiz 0 [Take-home quiz]: Monday, July 10th
  • Will be open 12:01 AM – 11:59 PM
  • Open note, open internet, no AI assistants, light collaboration
Last Time

• Nested for loops
  • Syntax & conventions: (i, j, k)
  • Applications
• Random
  • `nextInt(int max)`: returns random int value [0, max)
i.e. between 0 and max-1
(PCM) Methods

Writing our own *methods* allow us to define our own statements / commands in Java!

- Naming conventions for methods are the same as variables: camelCased

```java
public static void myMethod() {
    /***
     * Your code here
     ***/
}
```
What is the output of this program?

A. Hello!
   Goodbye.
   Welcome!!
   Glad you're here.

B. Hello!
   Welcome!!
   Glad you're here.

C. welcome
   hello
   welcome
   glad

D. Welcome!!
   Hello!
   Welcome!!
   Glad you're here.
Scope

The part of a program where a variable exists.

- From its declaration to the end of the \{ \} braces
- Ex: a variable declared in a for loop only exists in that loop
- Ex: a variable declared in a method exists only in that method

```java
public static void example() {
    System.out.println("hello");
    int x = 3;
    for (int i = 1; i <= 10; i++) {
        System.out.println(x);
    }
}
```

`i`'s scope

`x`'s scope
Class Constants

A fixed value visible to the whole program (the entire class).

• Value can be set only at declaration; cannot be reassigned (so the value is constant)

```java
public static final type NAME_OF_CONSTANT = expression;
```
(PCM) Parameters

A value passed to a method by its caller

```java
public static void myMethod(int num) {
    System.out.print(num + " is the best!");
    ...
}
```

Calling a method with a parameter...

```java
myMethod(42);
```
What will be the last line of output after this code has executed?

```java
public static void main(String[] args) {
    int count = 5;
    line(count);
    System.out.println("count is: " + count);
}

public static void line(int count) {
    for (int i = 1; i <= count; i++) {
        System.out.print("*".EXPANDED
    }
    count++;
    System.out.println();
}
```

A. count is: 5
B. count is: 6
C. count is: 1
D. I'm lost
What is the output of this program?

```java
public class ParameterMystery {
    public static void main(String[] args) {
        int x = 9;
        int y = 2;
        int z = 5;

        mystery(z, y, x);

        mystery(y, x, z);
    }

    public static void mystery(int x, int z, int y) {
        System.out.println(z + " and " + (y - x));
    }
}
```

A. 2 and 4  
B. 5 and -7  
C. 9 and -3  
D. I'm lost