

Introduction to Java

Discussion 02

Announcements

Lab 1 - due this Tuesday 1/26

Project O - due this Friday 1/29

Lab 2 - due this Friday 1/29

Office hours start this week

Read the Ed guidelines

Meet Your TA!

Add an introduction here. Make sure to make your own copy of the slides before editing, and change the location to your own Drive (not our shared 61B one).

Some things you can/probably should include:

- Your name
- Your pronouns
- Your email address
- Your major and year
- Maybe your hobbies, interests, favorites, etc so students can relate to you as a human being
- Maybe a fun picture of you that shows your ✨sparkle ✨

Content Review

Structure of a Class

```
public class CS61BStudent { // Class Declaration
    public int idNumber; // Instance Variables
    public int grade;
    public static String professor = "Hug"; // Class (Static) Variables
    public CS61BStudent (int id) { // Constructor
        this.idNumber = id;
        this.grade = 100;
    }
    public void watchLecture() { // Instance Method
        ...
    }
    public static void updateGrades() { // Class (Static) Method
        ...
    }
}
```

Instantiating Classes

```
public class CS61BLauncher {  
    public static void main(String[] args) {  
        CS61BStudent studentOne; // Declare a new variable of class CS61BStudent  
        studentOne = new CS61BStudent(32259); // Instantiate and assign to our new instance  
        CS61BStudent studentTwo = new CS61BStudent(19234); // Both at once  
  
        studentOne.watchLecture(); // Instance methods are called on instance  
  
        CS61BStudent.updateGrades(); // Static methods can be called on the class OR the instance  
  
        CS61BStudent.watchLecture(); // Fails. Which student is watching lecture?  
        studentOne.updateGrades(); // Works, though is seen as bad practice.  
    }  
}
```

Worksheet

1 Our First Java Program

```
1  size = 27;
2  name = "Fido";
3  Dog myDog = new Dog(name, size);
4  Dog yourDog = new Dog("Scruffy", 1000);
5  Dog[] dogList = new Dog[3];
6  dogList[0] = myDog;
7  dogList[1] = yourDog;
8  dogList[2] = 5;
9  dogList[3] = new Dog("Cutie", 8)
10 int x;
11 x = size - 5;
12 if (x < 15) {
13     myDog.bark(8);
14 }
```


2 Mystery

```
1  public static int mystery(int[] inputArray, int k) {
2      int x = inputArray[k];
3      int answer = k;
4      int index = k + 1;
5      while (index < inputArray.length) {
6          if (inputArray[index] < x) {
7              x = inputArray[index];
8              answer = index;
9          }
10         index = index + 1;
11     }
12     return answer;
13 }
```

2 Mystery *Extra*

```
1  public static int mystery2(int[] inputArray) {  
2      int index = 0;  
3      while (index < inputArray.length) {  
4          int targetIndex = mystery(inputArray, index);  
5          int temp = inputArray[targetIndex];  
6          inputArray[targetIndex] = inputArray[index];  
7          inputArray[index] = temp;  
8          index = index + 1;  
9      }  
10 }
```

3 Writing Your First Program

```
public static int fib(int n) {
```

```
}
```

3 Writing Your First Program *Extra*

```
public static int fib2(int n, int k int f0, int f1) {
```

```
}
```