CMSC 131
Fall 2018
Announcements

• Project #3 has been posted
• Exam will be returned in discussion on Wed/Thurs
• Median score was XXXX
Recall Dog class. Review:

Suppose we put this instance method in the Dog class:

```java
public void bark() {
    Dog d = new Dog();
    // which of the following are OK?
    ...weight...
    ...d.weight...
    ...Dog.weight...
    ...MIN_DOG_WEIGHT...
    ...d.MIN_DOG_WEIGHT...
    ...Dog.MIN_DOG_WEIGHT...
```
Review

Suppose we put this static method in the Dog class:

```java
public static void foo() {
    Dog d = new Dog();

    // which of the following are OK?
    ...weight...
    ...d.weight...
    ...Dog.weight...
    ...MIN_DOG_WEIGHT...
    ...d.MIN_DOG_WEIGHT...
    ...Dog.MIN_DOG_WEIGHT...
```
Project #3

Let’s look at the project together...

• Overview (Let’s run it!)
• Soldier class (you will write this)
• BattleField API
• Contest
• This project is a bit hard to “test” (so submit early and often!)

• Example of implementing a method in soldier class:
public boolean isEnemyAboveMe() {
}
}
Is our Code “Correct”?  

• Formal Verification  
  • What’s good about it?  
  • What’s bad about it?  
  • Where might this be used?  

• Testing  
  • What’s good about it?  
  • What’s bad about it?  
  • Where might this be used?  
  • What is “Unit Testing”?  
  • What is “Integrated Testing”?
JUnit

• What is JUnit?
  • Used on our Submission Server
• When are tests written?
• Where are they kept?
• How long are they kept?
Assertions

• `assertTrue(<boolean expression>)`
• `assertFalse(<boolean expression>)`
• `assertEquals(x, y)`
• Many others
This class has some bugs. Let’s test it with JUnit!

```java
public FunnyIntegerSet()
Instantiates an “empty” set

public add(int x)
Adds a value to the set

public findClosest(int x)
Returns the value in the set that is “closest” to x
```