CMSC 131

Fall 2018

Finish Demonstration: FunnyIntegerSet

This class has some bugs. Let's test it with JUnit!

```
public FunnyIntegerSet()
```
Instantiates an "empty" set

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

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

Recommendations

- Lots of tests!
- Keep test code "simple"

Observations

- Tests are run in an arbitrary order!
- Two ways to fail:
  - Failing an assertion
  - Throwing an exception (more about this later)
- All tests will run, even if one (or more) fail
- If an assertion fails, the test is aborted. (Subsequent assertions are not attempted).

- Note: Project #3 does NOT lend itself to use of JUnit.

Memory Diagram for Method Calls

- What is a "stack"?
    - push
    - pop
- What is the "call stack" used by the Java Virtual Machine?
- What are frames?

Example: PassingParameters.java

Observations:
- Primitives are passed "by value"
- Objects are passed "by reference" (local copy can be modified!)

this

- What is "this"?

1. Using "this" to access the current object

    Examples:
    - Accessing the state of the "current object"

      (Demonstrate with Student class)
    - Writing a constructor with parameter names matching instance variables

      (Demonstrate with Student class)
    - Passing the current object as an argument to a method

      (Demonstrate with SubmitServer, Student classes)