

# For Monday

- Read Becker, chapter 9, sections 1-3
- Recommended Practice Problems:
  - Chapter 8, problems 12-14

# Program 6

# Equality and Objects

# Exceptions

- What should happen when an error occurs in your program?

When an error is detected...

```
public void addCandidate(String name, String pixFile)
{
    if (this.numCandidates == 0)
        ...
    else if (this.numCandidates == 3)
    {
        this.cand3 = new Candidate(name, pixFile);
        this.numCandidates += 1;
    }
    else
        System.out.println("Error: too many candidates");
```

...make sure it can't be missed. Simply printing an error message usually isn't good enough. The alternative is to *throw an exception*.

```
else
    throw new IllegalStateException("Error: too many candidates");
```

Another useful exception is **IllegalArgumentException**. It's used when an argument passed to a method is inappropriate for some reason.

# Handling Exceptions

# Problem 4

- Write a program that finds the smallest of several integers. Assume that input will end when a sentinel value of  $-999$  is read. Do not count  $-999$  as one of the integers to consider.

- Write a **method** to compute the sum of all integers between first and second (including first and second), where first and second are integers and  $\text{first} \leq \text{second}$ . The method should return the sum. You may not change the value of either first or second.

- Write a method to find the smaller of two integers. The method will accept two integers and return the smaller of the two. If they are the same, then the method returns either one of them.

- A company gives bonuses based on production as follows:
  - 1000 units or fewer, the bonus is \$25
  - 1001 to 3000 units, the bonus is \$50
  - 3001 to 6000 units, the bonus is \$100
  - 6001 units and up, the bonus is \$200
- Write a method that accepts the number of units produced and determines the bonus for the employee. Return the bonus.

- Write a method to determine the purchaser's discount based on a code.
  - If the code is 7, the discount is 10%.
  - If the code is 3, the discount is 15%.
  - If the code is 12, the discount is 4%.
  - If the code is 1, there is no discount.
  - If the code is 8, the discount is 30%.
- The method should return the discount. Use a switch statement.