

# For Wednesday

- Read Becker, chapter 5, sections 4 and 5.1  
(skip the rest of section 5)
- Recommended practice problems:
  - Chapter 5, problems 2-4

# Program 3

Questions before the quiz?

# Quiz

Robot
int street int avenue Direction direction ThingBag backpack
+Robot(City aCity, int aStreet, int anAvenue, Direction aDirection) +boolean canPickThing() +int countThingsInBackpack() +boolean frontIsClear() +int getAvenue() +Direction getDirection() +String getLabel() +double getSpeed() +int getStreet()

# Consider this

```
public void step(int howFar)
{
    while (howFar > 0)
    {
        this.move();
    }
}
```

# Assignment vs. Equals

# Practice

- Write a method, `putStuff`, that has the robot put a specified number of things down.

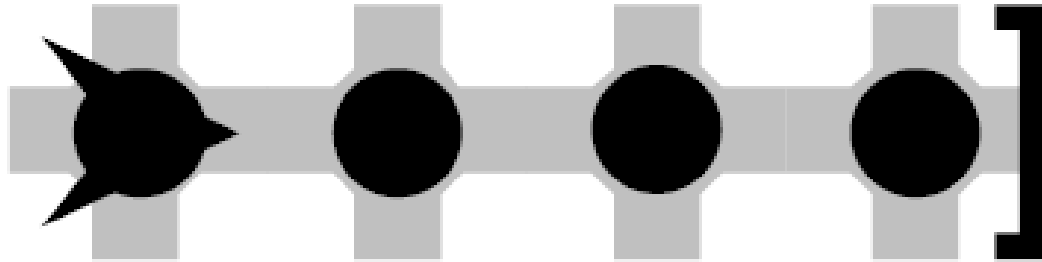
# Overloading

- What's the concept?

# Practice

- Overload pickThing to take a parameter specifying how many things to pick up.

# The Fencepost Problem



- How we would solve this problem?
- Why do we call it a fencepost problem?

# Loop and a half

- Sometimes we need to do one part of a loop more often than the rest of it.
- The extra part may go before the loop or after, depending on the problem.

# Constructing a While Loop

- What are the 4 steps to constructing a good while loop?

# Practice

- Right code to have karel put a Thing down on every spot along the north wall of an enclosed room. karel begins in the northwest corner of the room.

# Problem

- Write a method to move a robot to the end of a wall.



Initial Situation



Final Situation

# Temporary Variables

- Commonly called local variables
- Occur inside a method
- Store a value until the end of the method
- Must be given an initial value (i.e. they are not automatically given any value)
- Examples

# Using Temporary Variables

- Declaration
- Initialization
- Using the value
- Modifying the value

# Finding the End of a Wall Again

- Works better is we can write a predicate `rightsBlocked()`.
- Let's write it.

# More Practice

- Karel is standing facing a row of things. Pick them all up and then lay down exactly that many things in a row just beyond where they were (see board for clarification). You may not assume anything about the number of items in karel's pack to begin the process.

# Tracing the Code

# Try It Again

- Write a method to make a Robot go completely around the inside of a box created by walls.

# Nesting Ifs

# A Student Class

- `public double getGPA()`
- `public void setHonors(String honors)`

# Switch Statement