

For Friday

- Finish Becker, chapter 4
- Recommended practice problems:
 - chapter 4, problems 11-16

Program 2

- Any questions?

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()

Integer Queries

```
if (karel.getStreet() == 1)
{
    karel.turnAround();
}
```

```
while (karel.countThingsInBackpack < 4)
{
    karel.pickThing();
}
```

Comparison Operators

- $==$
- $!=$
- $>$
- $<$
- $>=$
- $<=$

Practice

- Write code to move two spaces forward, picking up any things in any space the robot enters.

Problem

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

If-else statements

Practice

- Write code to make a robot face north using the minimum possible number of turns.

Writing Predicates

- What's a predicate?
- What advantage is there in writing our own predicates?

Try It

- Try writing the following predicates:
 - isOn6thStreet
 - isFacingNorth
 - backpackIsEmpty

Using Parameters

- Arguments to a method
- Supply information
- Terminology:
 - Arguments or actual parameters
 - Parameters or formal parameters

Why Parameters?

- isOn6thStreet vs. isOnStreet

Practice

- Write a predicate that tells whether the robot is facing in a specified direction.

Parameters and while

- Consider writing a `moveToAvenue` method.

Practice

- Write a method called **carryAtLeast** that accepts an integer parameter **numThings** and makes the robot pick up things from the current intersection until he is carrying at least **numThings** Things.

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?