

For Friday

- Read Becker, sections 1.4-1.5, 1.7
- Recommended practice problems: chapter 1, problems 4-8
- Turn in student information sheet
- Send email to me at mecaliff@ilstu.edu with
 - Your name
 - ITK 168
 - Your section

Questions before the quiz?

Quiz

Modeling with Objects

Model	Information	Operations
Concert	Who's performing Performance date Which seats are sold	Sell a ticket Count tickets sold
Schedule	List of task, each with est. time	Insert or delete a task Calc est. finish time
Restaurant seating	Occupied tables Unoccupied tables # of seats at each table	Mark a table occupied Mark a table unoccupied

Maintaining Models

- Can be done
 - in our heads
 - with pencil and paper
 - with computer software

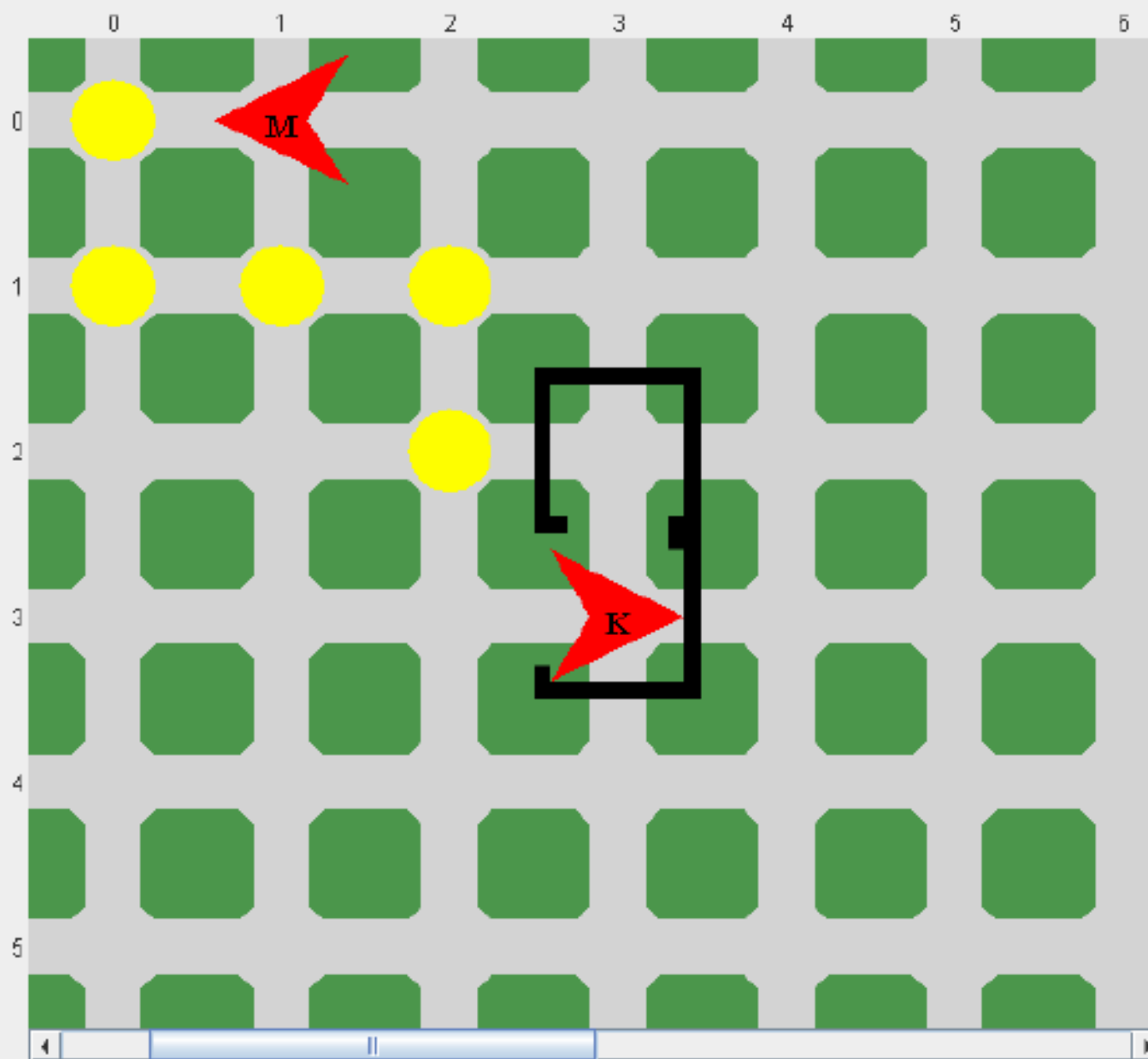
Objects

- Basic pieces of all Java programs
- Software objects have
 - Information, called **attributes**
 - Services that either change the attributes or answer a question about them
- Can visualize using an **object diagram**
 - Show attributes and their values
- May have lots of similar objects – same attributes and services, but different values

Class

- A design for a set of similar objects is called a **class**
- This specifies the services and attributes of the objects, but not their individual values
- Can describe a class using a **class diagram**

File Speed



Controls

Start

Speed

Zoom

Fast

In

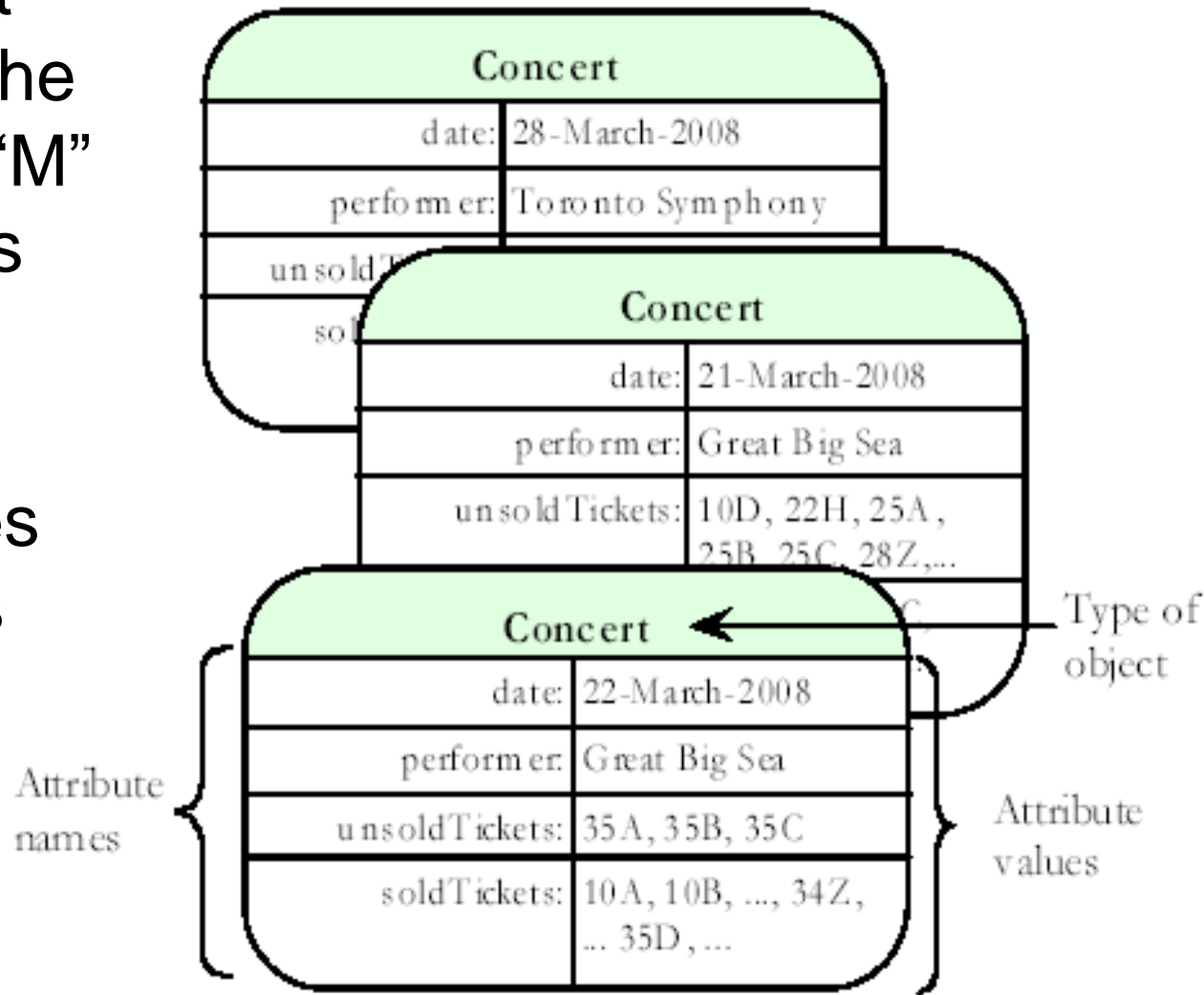
Slow

Out



Self-test

- Draw an object diagram from the robot labelled “M” on the previous slide.
- Draw it again after it executes the commands `move();` `pickThing();`



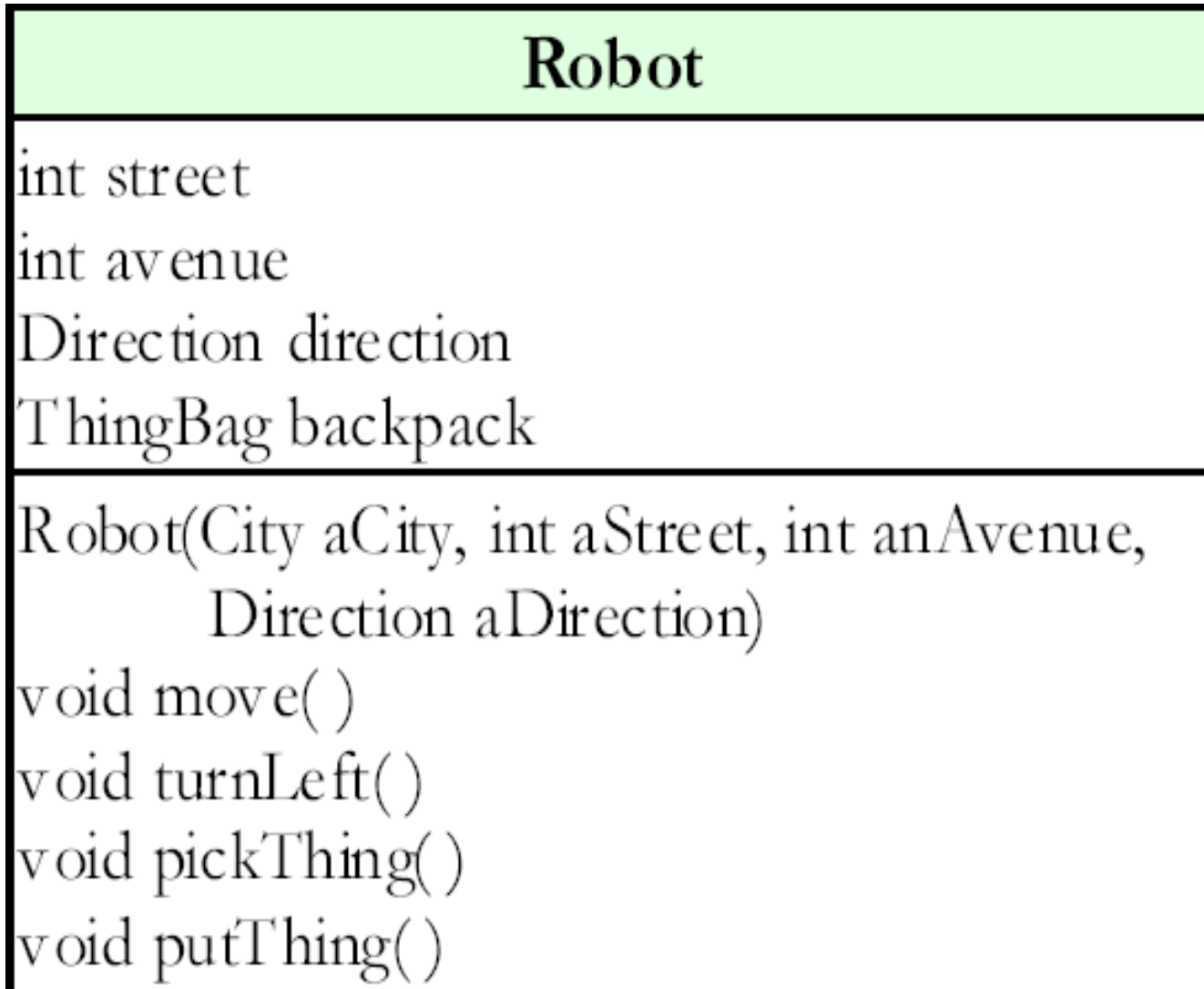
1.

Robot	
currentAvenue:	1
currentStreet:	0
direction:	WEST
backpack:	(empty)

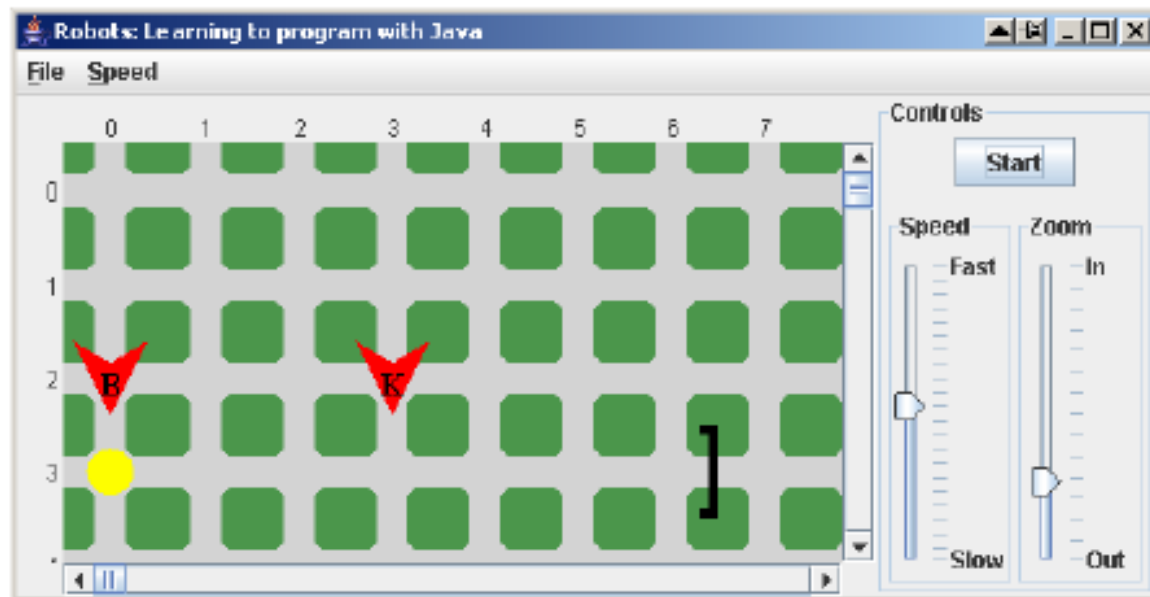
2.

Robot	
currentAvenue:	0
currentStreet:	0
direction:	WEST
backpack:	one thing

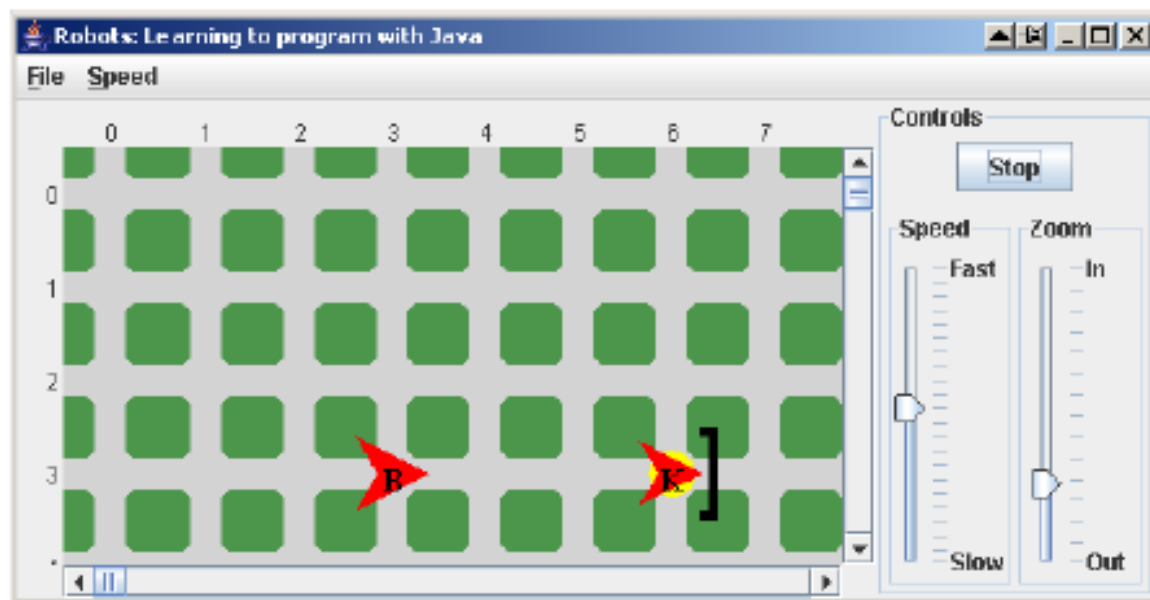
Class Diagram



Two robots running a “relay.”



Initial Situation



Final Situation

“B” picks up the baton and takes it to “K”, who finishes the race.