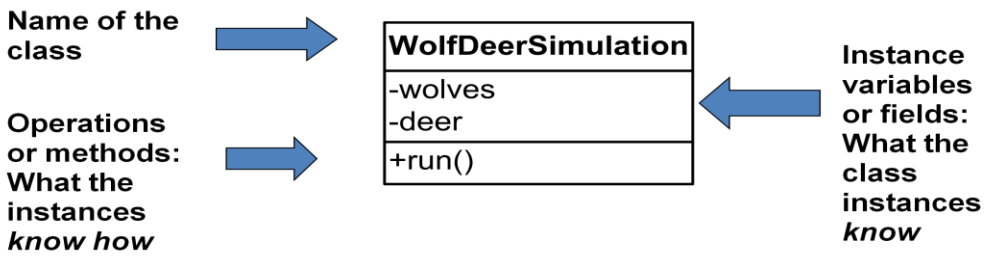
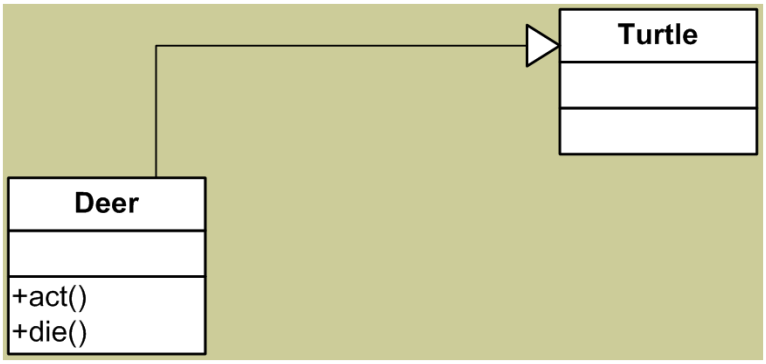
Recitation Guide Monday, July 9

1. Comprehensive Review Session part 2
    a. On Thursday July 12 4:30pm, hosted by Rory and Kristin.
    b. Location is still TBA
2. Quiz 4 canceled
    a. Quiz 4 has been canceled. Your final quiz grade in this class will be based on 3 quiz scores. There will be an optional quiz given in recitation during the final week of classes (July 23 and July 25). This optional quiz will replace your lowest quiz score (if the score is higher than your lowest quiz score).
3. Exam 2 and Exam 2 Review Session
    a. In the works for Tuesday July 17
    b. Exam 2 is still on Wednesday July 18
4. Quiz 3
    a. Hand back quiz 3 if graded and go over solutions.
5. Pre-Quiz 4 and intro to UML (Unified Modeling Language)
    a. UML
        i. Individual diagram

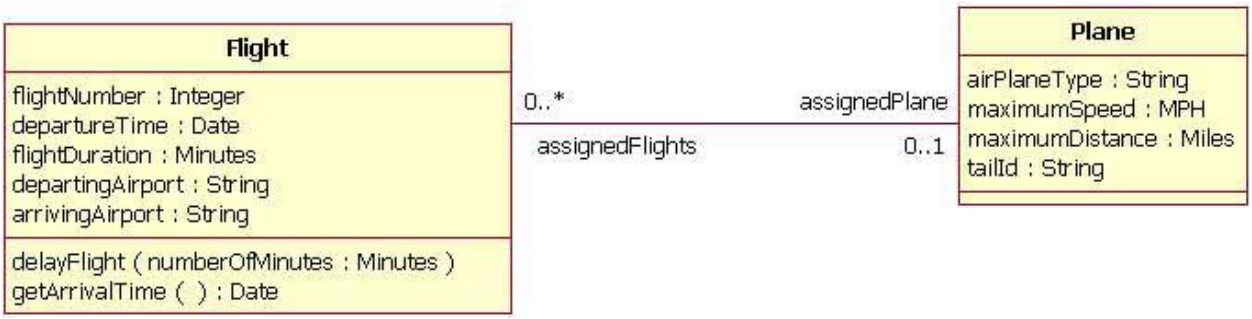


        ii. Generalization/specialization relationship



A Deer is a subclass of Turtle. Therefore Deer is a specialization of Turtle.

        iii. **Association relationship (bi-directional association)**



A bi-directional association is indicated by a solid line between the two classes. At either end of the line, you place a role name and a multiplicity value. The figure above shows that the Flight is associated with a specific Plane, and the Flight class knows about this association. The Plane takes on the role of "assignedPlane" in this association because the role name next to the Plane class says so. The multiplicity value next to the Plane class of 0..1 means that when an instance of a Flight exists, it can either have one instance of a Plane associated with it or no Planes associated with it (i.e., maybe a plane has not yet been assigned). The figure also shows that a Plane knows about its association with the Flight class. In this association, the Flight takes on the role of "assignedFlights"; the diagram in Figure 6 tells us that the Plane instance can be associated either with no flights (e.g., it's a brand new plane) or with up to an infinite number of flights (e.g., the plane has been in commission for the last five years).

iv. For more information visit: http://www.ibm.com/developerworks/rational/library/content/RationalEdge/sep04/bell/
v. Go over the Pre-quiz 4: http://coweb.cc.gatech.edu/cs1316/720

6. Homework 8 and Simulations
    a. Simulation – a representation of a system of objects in a real or fantasy world. The purpose of creating a computer simulation is to provide a framework in which to understand the simulated situation. Such simulations make it possible to collect statistics about these situations and to test out new ideas about their organization.
        i. Continuous simulations – each moment of time is simulated. Ex: WolfDeerSimulation.
        ii. Discrete simulations – simulation is advanced from event time to event time.
    b. Go over WolfDeerSimulation and DiseaseSimulation
    c. Rehashing AND and OR
        i. AND – All expressions must evaluate to true for the entire statement to be true
        Symbol: &&
        ii. OR – Only one expression must evaluate to true for the entire statement to be true
        Symbol: ||

d. The Random class

   i.
```
import java.util.Random;
Random gen = new Random();
//i will have the range [0,5)
int i = gen.nextInt(5);
```

   ii. The Random class is more versatile than just using Math.random().

e. Writing out to a textfile

```
import java.io.*;
try {
      BufferedWriter output = new BufferedWriter(
           new FileWriter("C:/textfile.txt"));
      output.write("Recitation rocks");
      output.newLine(); //new line
      output.close();
    } catch (Exception ex) {}
```

f. Go over homework 8's description