CSE 142

What is Computer Science?

What is Computer Science?

- What do you think it is?

What is Computer Science?

- Computation?
- Abstraction?
- Software Development?
- All boils down to modeling
  - Data
  - Objects
  - Relationships

Overview of CSE 142

- We'll learn how to model…
  - Objects
  - Relationships
  - Data
  - Computation
- While learning how to create software systems using the Java programming language

What is modeling? (1)

- What are some examples of models?
- Why do we use models of objects?

What is modeling? (2)

- How do we model objects?

World of Objects

- Learn to think about *properties* and *responsibilities* of objects
  - Properties: information relevant to the object
  - Responsibilities: tasks an object performs
- Learn to think about how objects relate to each other in a system

Student Example

- You are a student
- Let's model a student object in the context of a course registration system
- Name examples of relevant properties:

Student Example (cont.)

- What are some responsibilities (tasks) for the student in a course registration system?

Retail Store Example

- Let's model a system to store inventory of a retail store that sells men's and women's shoes
- Give some examples of objects in the system

Retail Store Example (cont.)

- Object Properties Responsibilities

Summary

- Modeling the world with objects in software is called object-oriented programming.
  - We'll be discussing this in more detail
- Objects have properties and responsibilities
- Modeling includes developing abstractions for objects and creating relationships among objects