

# Interfaces and APIs

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CSSE 221

Fundamentals of Software Development Honors

Rose-Hulman Institute of Technology

# Announcements

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- Homework 1 due now
- Any problems committing JavaEyes to Subversion?
- ~~Tuesday is "Neck Tie Tuesday Day"~~
- Roll call: for pronunciation
- Last class: Eclipse and SVN
- Any questions?
  - Course mechanics? Syllabus? Moodle? Piazza?
  - Homework?

# Student-led research and presentation: Capsules

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- Opportunity for Honors students
  - Deeper understanding
- Three total per student:
  - Weeks 2-3: Research, summarize, and create a short quiz and answer key
  - Weeks 4-6: & create a demo & activity
  - Weeks 7-8: & present it to your classmates

# Capsule topics

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## Research & Summary

- Inheritance
- Polymorphism
- 1D and 2D Arrays and ArrayLists
- GUI using Swing
- EventListeners
- Shape classes

## + Demo & Activity

- Lists & Iterators
- Stacks & Queues
- Sets & Maps
- Recursion
- File IO
- Threads

## + Presentation

- Insertion and Selection Sorts
- Advanced GUIs
- MergeSort
- Animation
- Searching algorithms
- Function objects and Comparators

- We will work in teams of 3 or 4.
- Choose ones you want to learn most about.

# This week: BigRational assignment

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- Today
  - API (Application Programming Interface)
  - Interfaces: writing to a contract
- Wednesday
  - Unit Testing: searching for logic errors
  - Introduction to efficiency analysis: “big-Oh”
- Friday
  - Exceptions: throwing and catching

# Two views of interfaces

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## 1. As a user

- Application Programming Interface (API)

– Interface = Method signatures

## 2. As an implementer

- Obligation to implement certain methods

A contract

Doesn't include fields

# Onto the assignment

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- See Homework 2 and its link to **BigRational**