

# Programming Languages and Techniques (CIS120)

Lecture 22

Mar 12, 2012

Java Programming: Resizable Arrays

# Announcements

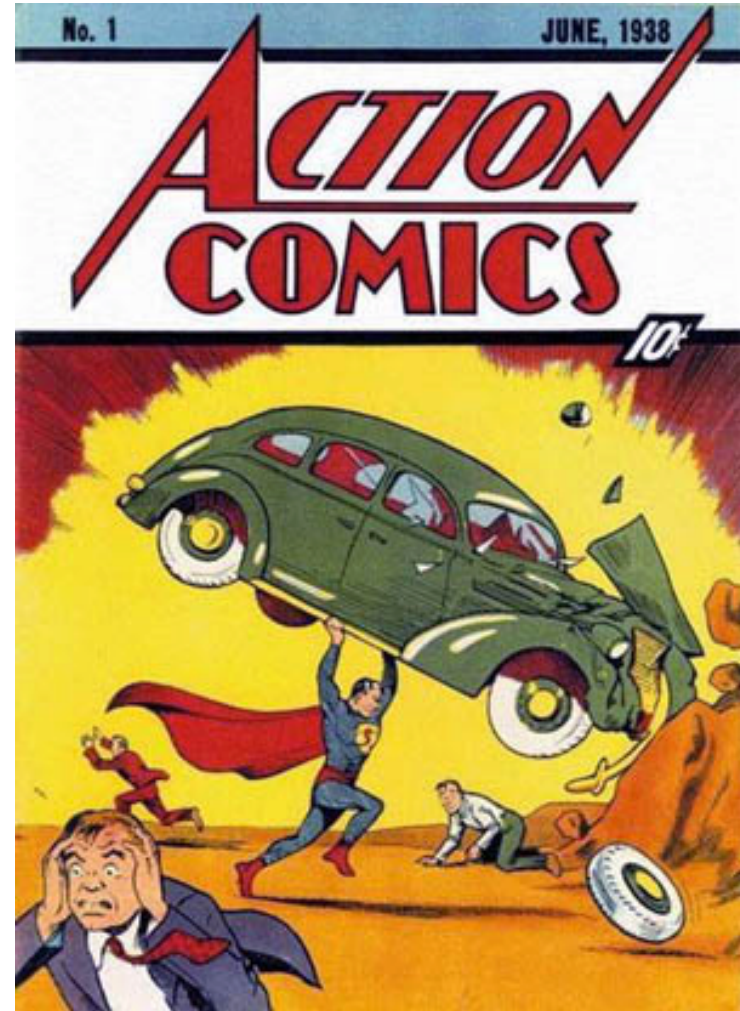
- Welcome back!
- HW07 is available on the web
  - Image processing in Java
  - Due Thursday, Mar 15<sup>th</sup> at 11:59:59pm

# Design Exercise: Resizable Arrays

Arrays that grow without bound.

# A Design Problem

*Suppose you have a friend who runs a comic book store. She would like some help to keep track of her inventory. In each series, each issue has a number and she would like to know how many copies of that issue she has in stock. However, she does not know how many issues of each series there will be.*



# Step 1: Understand the Problem

- What are the concepts & requirements?

## Step 2: Define the interface

- Need a “resizable int array” type
  - class ResArray
- a way to create the type without specifying an initial size
  - Constructor that takes no arguments
- a way to access elements of the array
  - `a.get(3)` returns the number of copies of issue #3  
start indexing with issue #0
- a way to update elements of the array
  - `a.set(4,2)` records the number of copies of issue #4
- a way to know the index of the most recent issue in stock
  - `a.getExtent()` returns the “extent” of the resizable array,  
one past the largest index with nonzero value.