

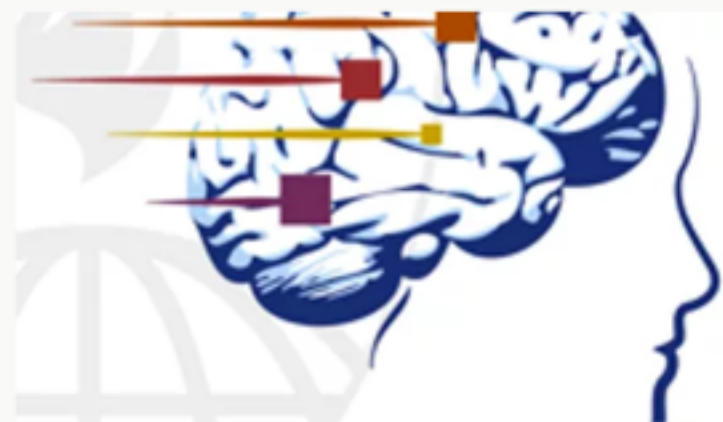
Introducing the Recommender

Reading and Storing Data

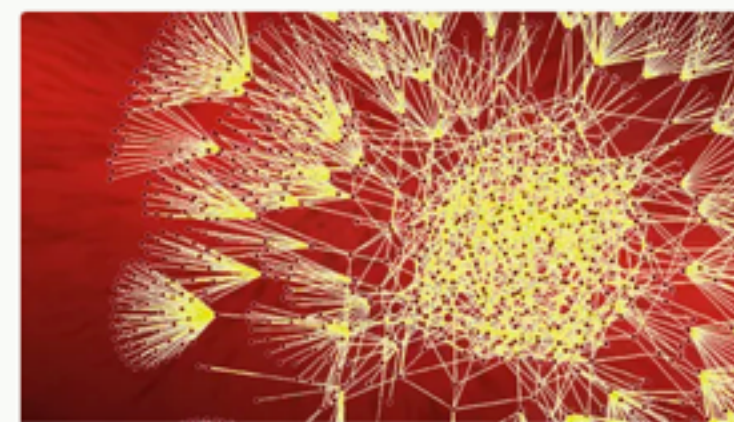
Recommender Framework

- You'll build a sequence of Recommenders
 - Need data for making recommendations

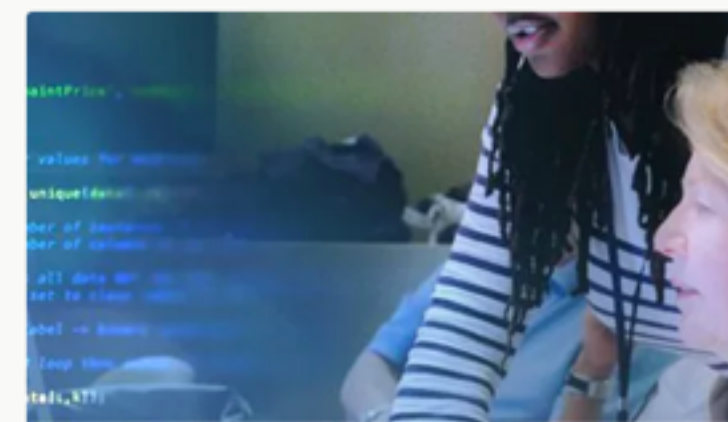
Popular Specializations



Data Science
Johns Hopkins University



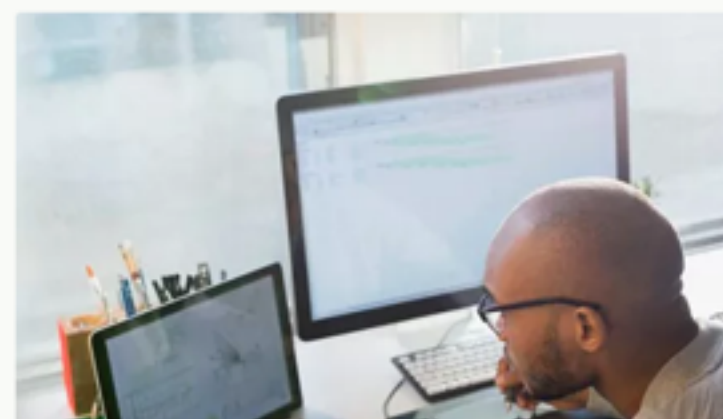
Big Data
University of California, San Di...



Python for Everybody
University of Michigan



**Excel to MySQL: Analytic
Techniques for Business**
Duke University



Machine Learning
University of Washington



**Introduction to Project
Management Principles...**
University of California, Irvine



Business Analytics
University of Pennsylvania



Interaction Design
University of California, San Di...


Recommender Framework


- You'll build a sequence of Recommenders
 - Need data for making recommendations
 - Read and store data to make recommendations


Best asian in Financial District, San Francisco, CA
San Francisco > Financial District


Filters


\$ \$\$ \$\$\$ \$\$\$\$ ⌚ Open Now 🛒 Order Pickup or Delivery 📅 Make a R

 **1. Hakkasan** Financial District, Union Squan
★★★★☆ 912 reviews 1 Kearny St
\$\$\$ · American (New), Cantonese, Dim Sum San Francisco, CA 94108
(415) 829-8148

 Hakkasan is apparently part of a family of restaurants. There is a club venue in vegas.. and they do run on the "pinky-in-air" higher end of version of **asian**/ fusion dining. I wouldn't...

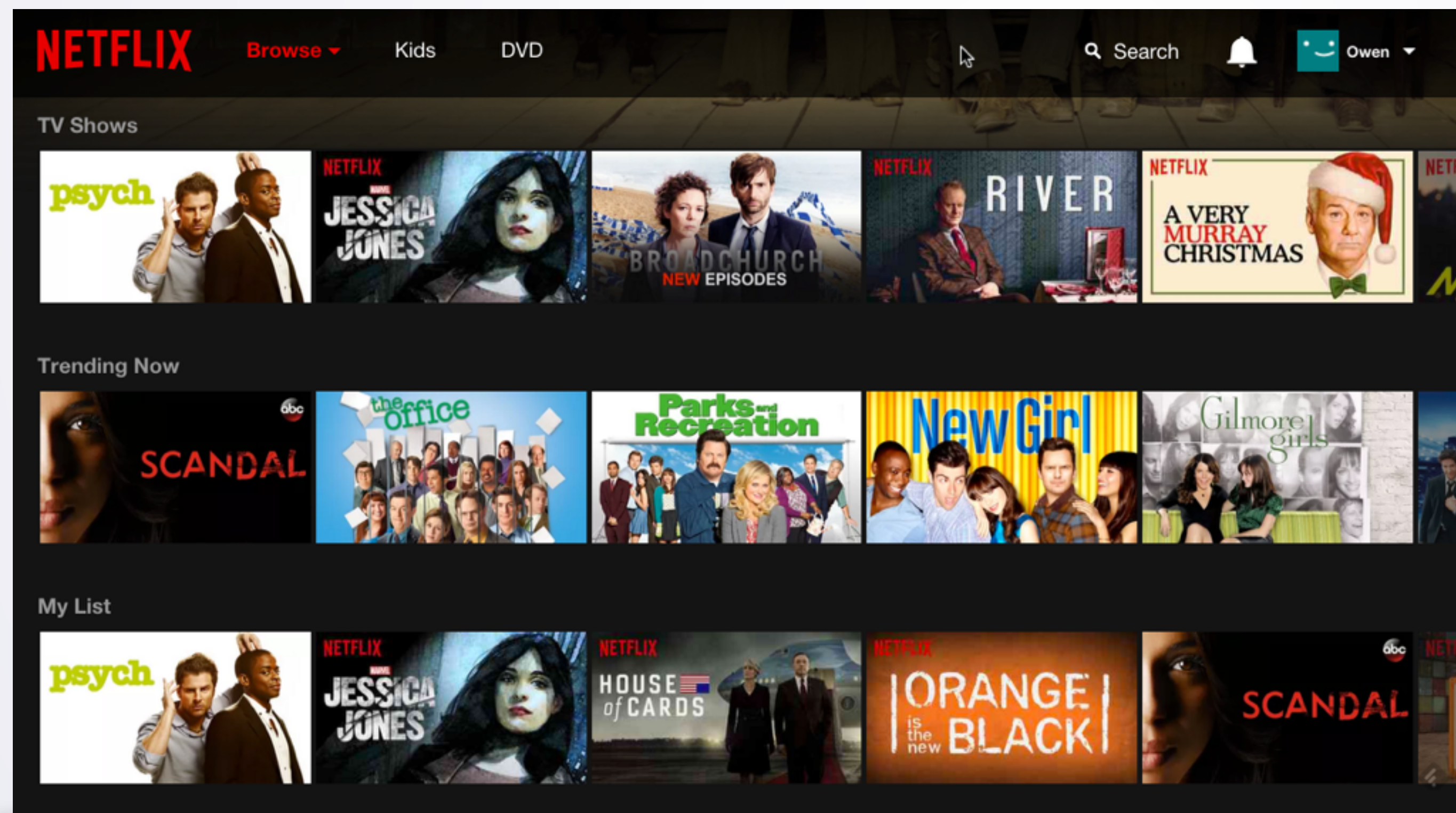
 **2. Sushirito** Financial District
★★★★☆ 900 reviews 226 Kearny St
\$\$ · Japanese, Sushi Bars, Asian Fusion San Francisco, CA 94108
(415) 544-9868

 Unique concept with a big following! Should you fall into the hype? I have, but will not overhype the place. So the question you might ask is if it is more **Asian** or Mexican? The answer...

 **3. Sapphire Asian Cuisine** Financial District
★★★★☆ 247 reviews 475 Sacramento St
\$ · Burmese, Asian Fusion San Francisco, CA 94111
(415) 984-0428

Recommender Framework

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Recommender Framework

- You'll build a sequence of Recommenders
 - Need data for making recommendations
 - Read and store data to make recommendations
- We'll use data about movies, but techniques generalize to any data
- You'll be able to use most of the techniques and concepts you've learned!

Movie Data, Rater Data

- We use curated recommendations pulled from Twitter via MovieTweatings
 - <http://bit.ly/dukemovietweets>
- Data in CSV files created for capstone
- You'll read, store, access data
- Start simple, create efficient structures using software design techniques

Movie POJO

- Movie.java mirrors CSV file for data
 - One line per movie in .csv file
 - IMDB identifier, title, year, country, genre, director, minutes, IMDB poster-image-URL

```
0119217,"Good Will Hunting",1997,"USA","Drama",  
"Gus Van Sant",126,  
"http://ia.media-imdb.com/images/M/  
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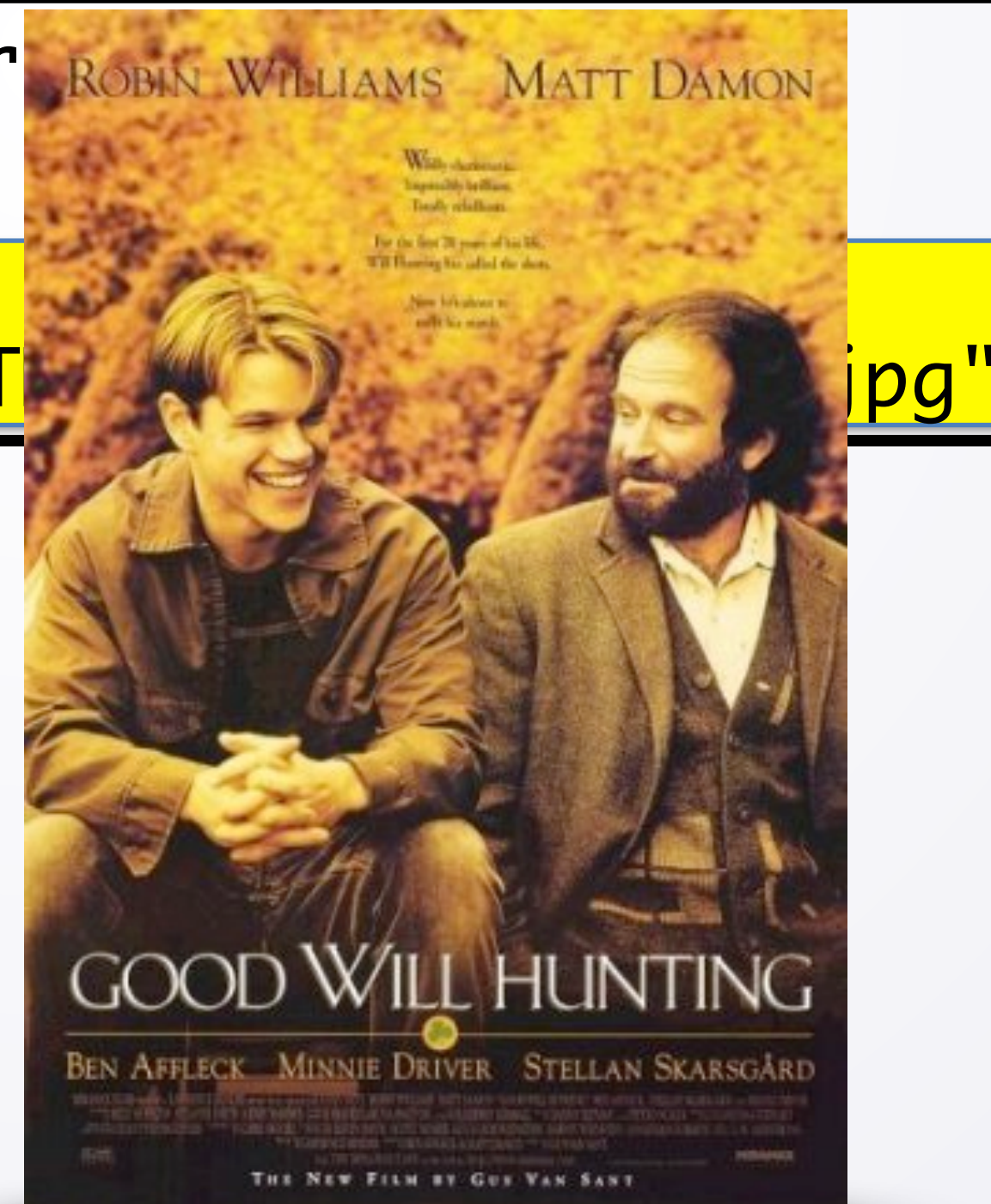
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Movie POJO

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 - One line per movie in .csv file
 - IMDB identifier, title, year, country, genre, director, minutes, IMDB poster-image-URL
- Plain Old Java Object (POJO)
 - Constructor, getters, immutable
 - **getTitle()**, **getID()**, **getYear()**, ...
- Read data with FileResource, CSVParser, CSVRecord

Rater Data and Class

- CSV file ratings.csv stores movie ratings
 - Rater ID, Movie ID, Rating, Time of Rating

```
2,2361509,8,1446837136  
2,2381249,5,1446837214  
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2,2883512,8,1432407808  
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Rater Data and Class

- CSV file ratings.csv stores movie ratings
 - Rater ID, Movie ID, Rating, Time of Rating
- From Movie ID we get all movie data
 - Stored when reading movie CSV file
- The Rater class supports several operations
 - Does this rater have rating for movie 2883512?
 - What is rating for movie 2883512?
 - Add rating 8 for 2883152
 - Get IDs for all movies rated, see Rater.java

Reading and Storing Data

- Use Movie.java, Rater.java and Rating.java to read CSV files create ArrayLists
 - Rater.java stores Rating data for one rater
 - Each Rating contains movie ID and rating
- Movie.java and Rating.java are POJOs
 - Create and access data via getter methods
- Rater.java supports queries about what movies are rated