

WELCOME

Fall 2017



```

41 if ((dir==1 || dir == -3) && row > 0){
42     Swap(board, row, col, row-1, col); David Ruby
43 }
44 else if ((dir == 2 || dir == -4) && col < MAXDIM-1){
45     Swap(board, row, col, row, col+1);

```

STREAM STUDENTS ABOUT

No work due soon

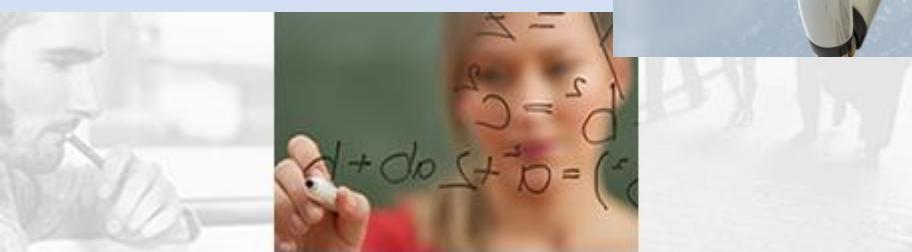
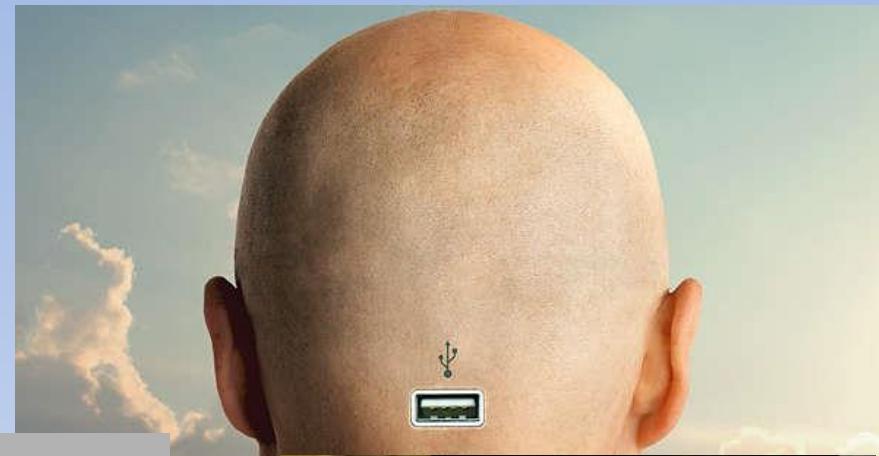
[VIEW ALL](#)

STREAM

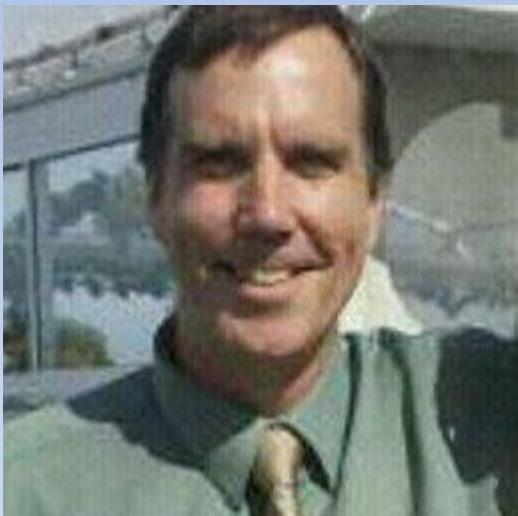
Show deleted items:

Welcome to your class!

Do you want to take a tour to learn more?



Computer Science 226, Advanced Database Systems (3 units)



Class Instructor:

David Ruby

Office:

Science II – 273

Email:

druby@csufresno.edu

Intro Outline

- Computers Current Context Chat
- Perrsonal Perspective
- 226 Overview

Current Context: Information Age Arrival

- Computers Driving Change
- Data Insanely Important
- Change Is Coming
- Social Impacts Significant

Summer w/ Technology



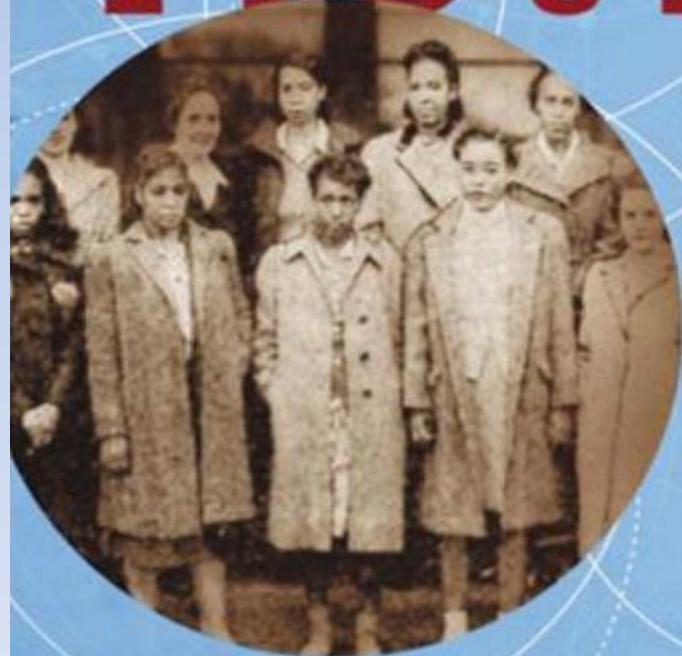
Image Credit : Analytics India Magazine

Artificial Intelligence (AI) : Will it help or hurt mankind?

- How did we get here?

During World War II, America's fledgling aeronautics industry hired black female mathematicians to fill a labor shortage. These "human computers" stayed on to work for NASA and make sure America won the Space Race. They fought for their country's future, and for their share of the American Dream. This is their untold story.

HIDDEN FIGURES



MARGOT LEE SHETTERLY

Early Computing

BASED ON THE UNTOLD TRUE STORY

MEET THE WOMEN YOU DON'T KNOW,
BEHIND THE MISSION YOU DO.

HIDDEN FIGURES

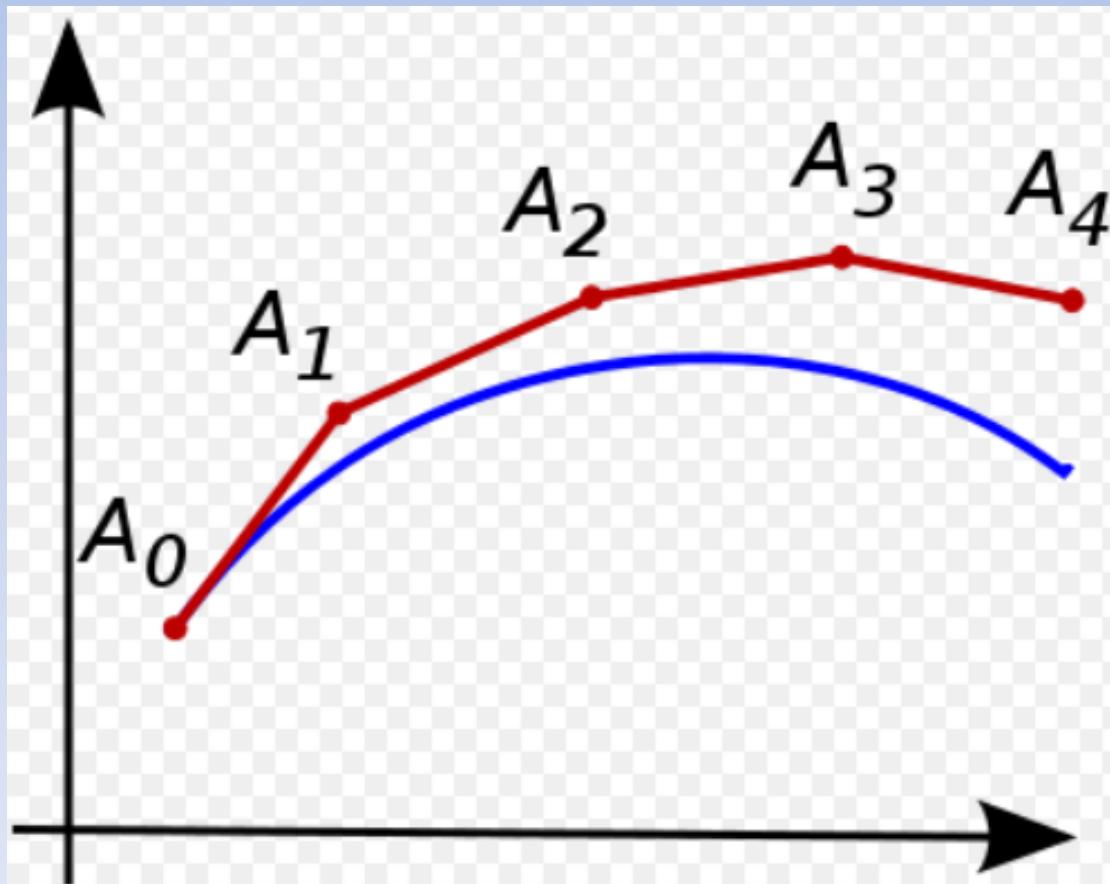


1.13.17

HIDDENFIGURESMOVIE.COM

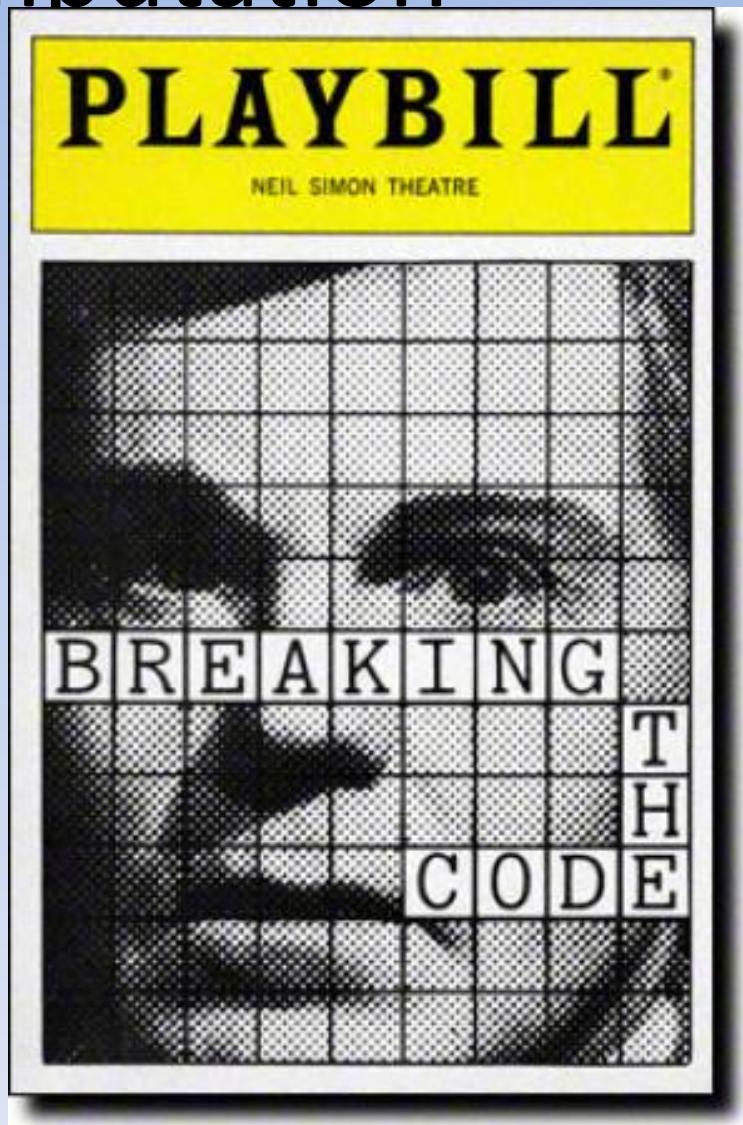
Euler's Method

- Approximation algorithms



Computers & Computation

- Logical versus Approximate
- Artificial Intelligence
- Machine Learning
- Dealing w/ Uncertainty
- Big Data
- Data, Data, Data
 - Databases



Early Computing

Alan Turing

The Turing Test (1950)

- Requires:
 - Natural Language
 - Knowledge Representation
 - Automated Reasoning
 - Machine Learning

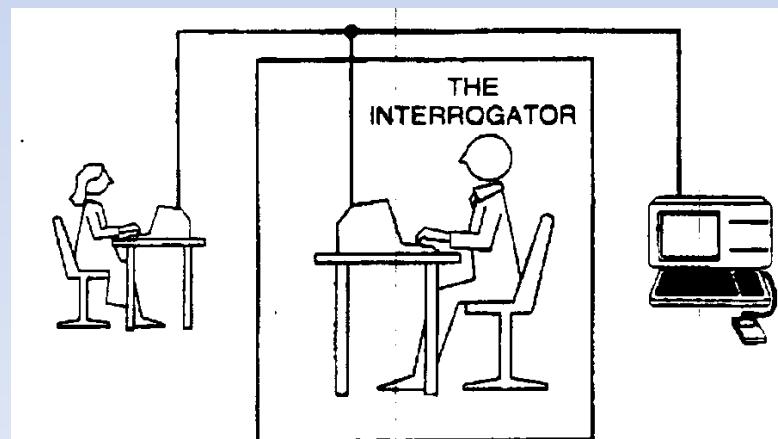
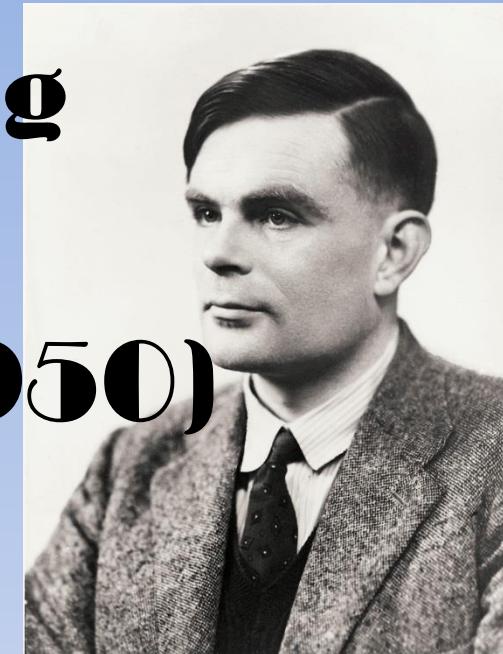


Figure 1.1 The Turing test.

Alan Turing: Early Computing Bombe (Hut 1: 18 March 1940) Decoding Enigma in Theatre



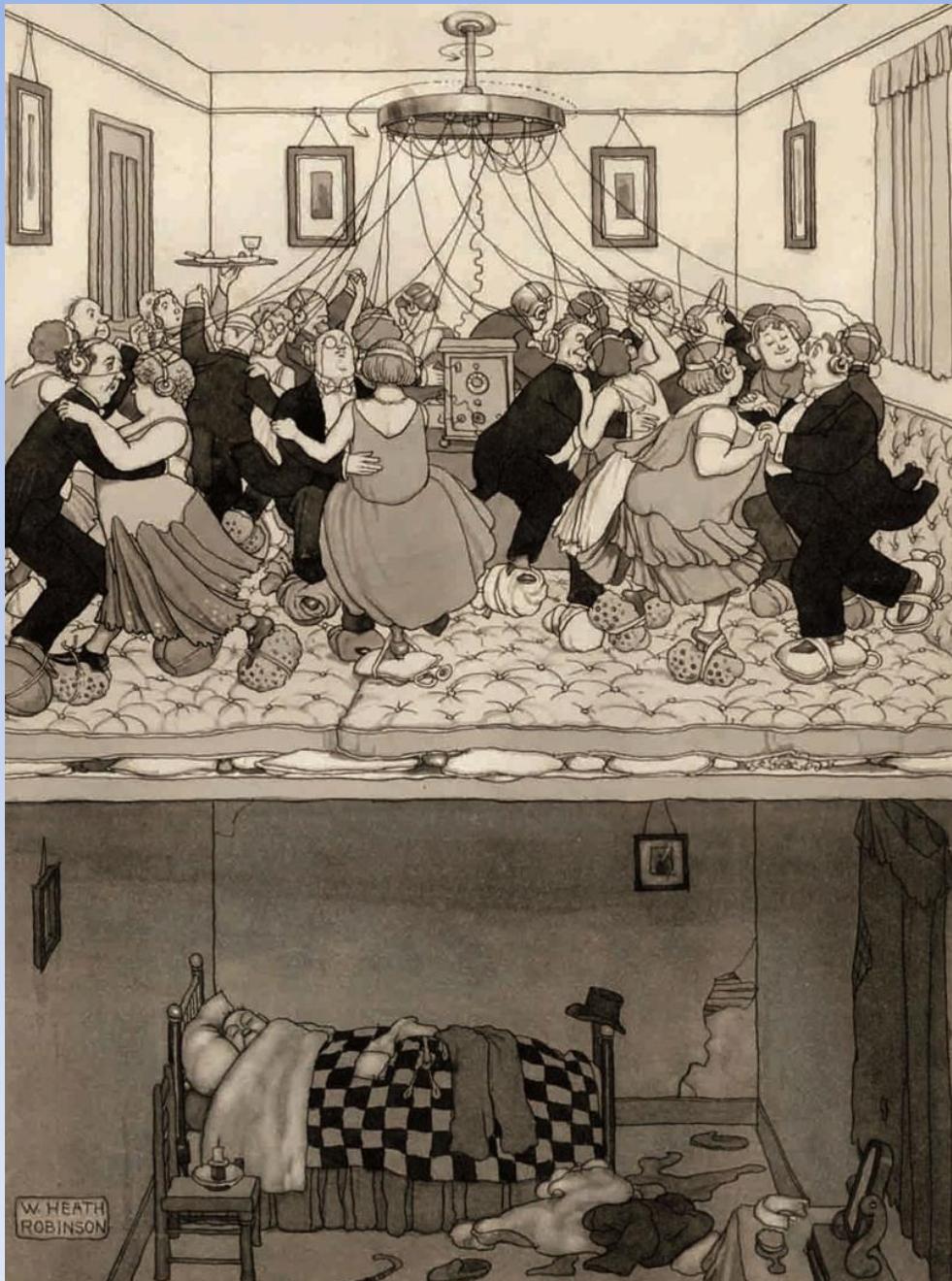
Heath Robinson



- June 1943
- Complex Machines



- Complex Machines



- Turing Machine
 - Abstract Machine

[Received 28 May,
1936.—Read 12
November, 1936.]

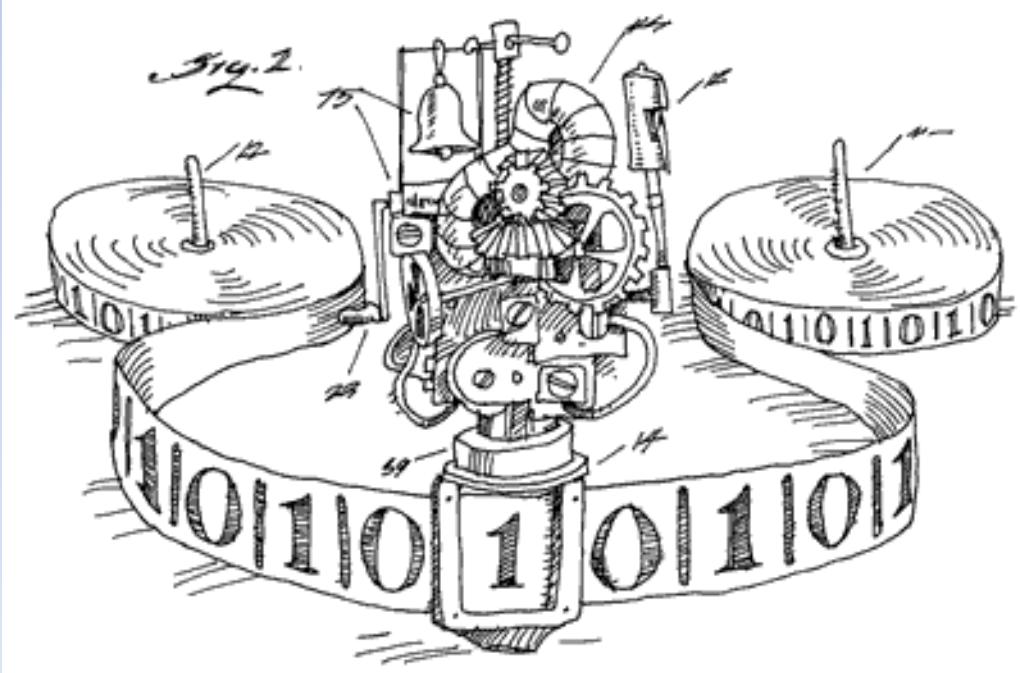


A. M. Turing

[NOV. 12 1936.]

ON COMPUTABLE NUMBERS, WITH AN APPLICATION TO THE ENTSCHEIDUNGSPROBLEM

By A. M. TURING



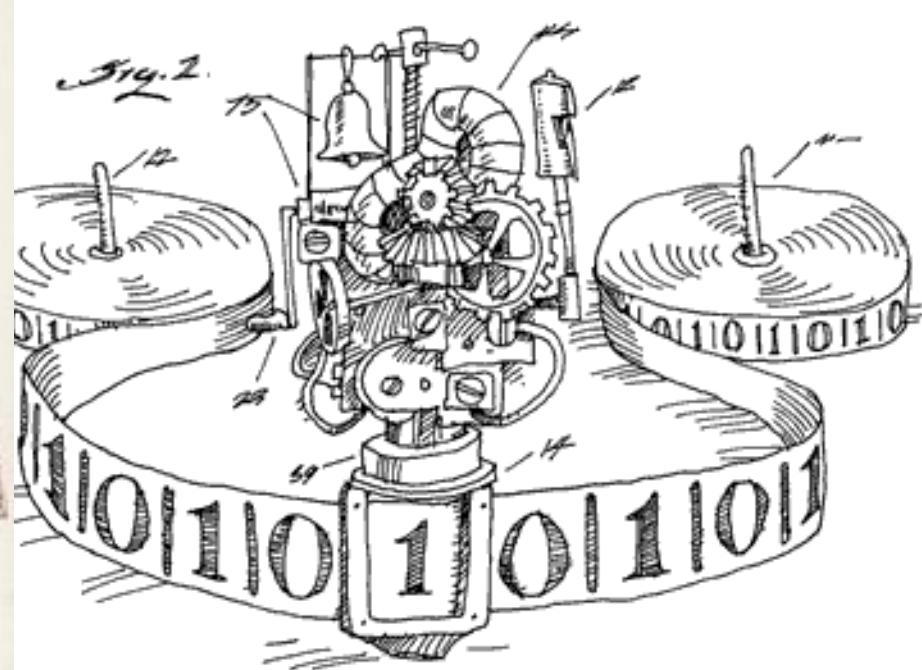
INTRODUCTION TO AUTOMATA THEORY, LANGUAGES, AND COMPUTATION

JOHN E. HOPCROFT
JEFFREY D. ULLMAN



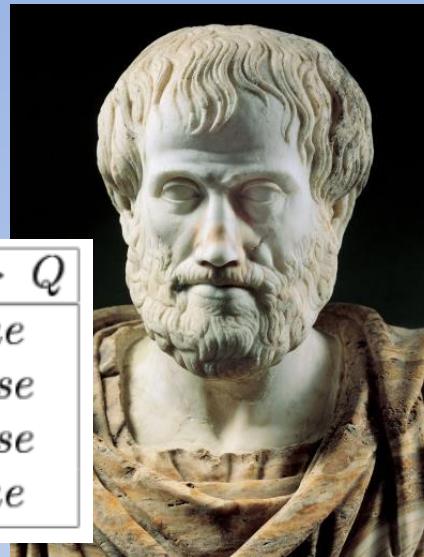
ON COMPUTABLE NUMBERS, WITH AN APPLICATION TO THE ENTSCHEIDUNGSPROBLEM

By A. M. TURING

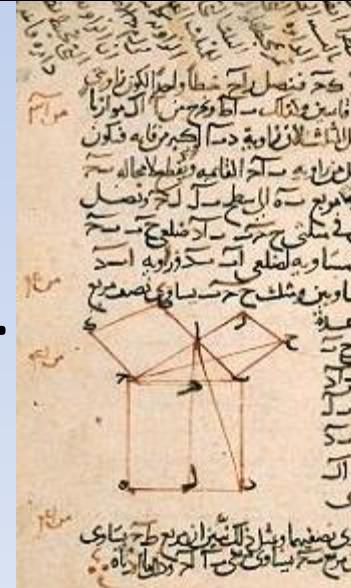


Truth & Trust

P	Q	$\neg P$	$P \wedge Q$	$P \vee Q$	$P \Rightarrow Q$	$P \Leftrightarrow Q$
<i>false</i>	<i>false</i>	<i>true</i>	<i>false</i>	<i>false</i>	<i>true</i>	<i>true</i>
<i>false</i>	<i>true</i>	<i>true</i>	<i>false</i>	<i>true</i>	<i>true</i>	<i>false</i>
<i>true</i>	<i>false</i>	<i>false</i>	<i>false</i>	<i>true</i>	<i>false</i>	<i>false</i>
<i>true</i>	<i>true</i>	<i>false</i>	<i>true</i>	<i>true</i>	<i>true</i>	<i>true</i>



ARISTOTLE
Father of Logic



EUCLID
Father of Geometry

- Aristotle (384-322BC) conducted the first systematic study of Logic.
- After his death in 322 his students compiled his works into 6 books of the Organon.
- 300BC Euclid published his 13 books of Elements providing the principles for geometry.

Classical Mechanics



INTRODUCTION TO AUTOMATA THEORY, LANGUAGES, AND COMPUTATION

JOHN E. HOPCROFT
JEFFREY D. ULLMAN



Blaise Pascal



Painting of Blaise Pascal made by François II Quesnel for Gérard Edelinck in 1691.

Born	19 June 1623 Clermont-Ferrand, Auvergne, France
Died	19 August 1662 (aged 39) Paris, France
Residence	France
Nationality	French
Era	17th-century philosophy
Region	Western philosophy
School	Jansenism Proto-existentialism
Main interests	Theology · Mathematics · Philosophy · Physics

Blaise Pascal – 1652

Mechanical Math

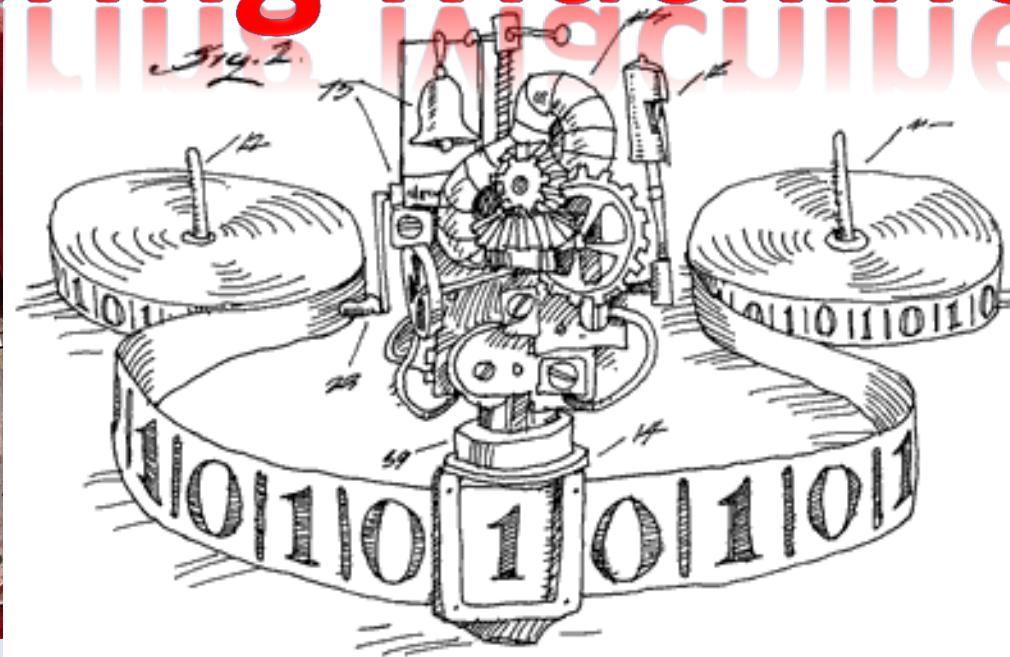
The Calculator



INTRODUCTION
TO
AUTOMATA THEORY,
LANGUAGES,
AND
COMPUTATION

JOHN E. HOPCROFT
JEFFREY D. ULLMAN

Turing Machine



**INTRODUCTION
TO
AUTOMATA THEORY,
LANGUAGES,
AND
COMPUTATION**

JOHN E. HOPCROFT
JEFFREY D. ULLMAN



Cinderella Book



- **John Hopcroft and Jeffrey Ullman**

Why Code?

- Computational Thinking...

Structured thinking compatible with computer implementations through:

- Abstraction: Alternate representations w/ information hiding.
- Automation: Utilizing constructs compatible w/ machine execution.
- Analysis: Solution execution and evaluation.

Why Code?

- The characteristics that define computational thinking are:
 - Decomposition
 - Pattern Recognition / Data Representation
 - Generalization/Abstraction
 - Algorithms

Computer Science & AI Recognized as Transformative Technology

- Summer Question Became...

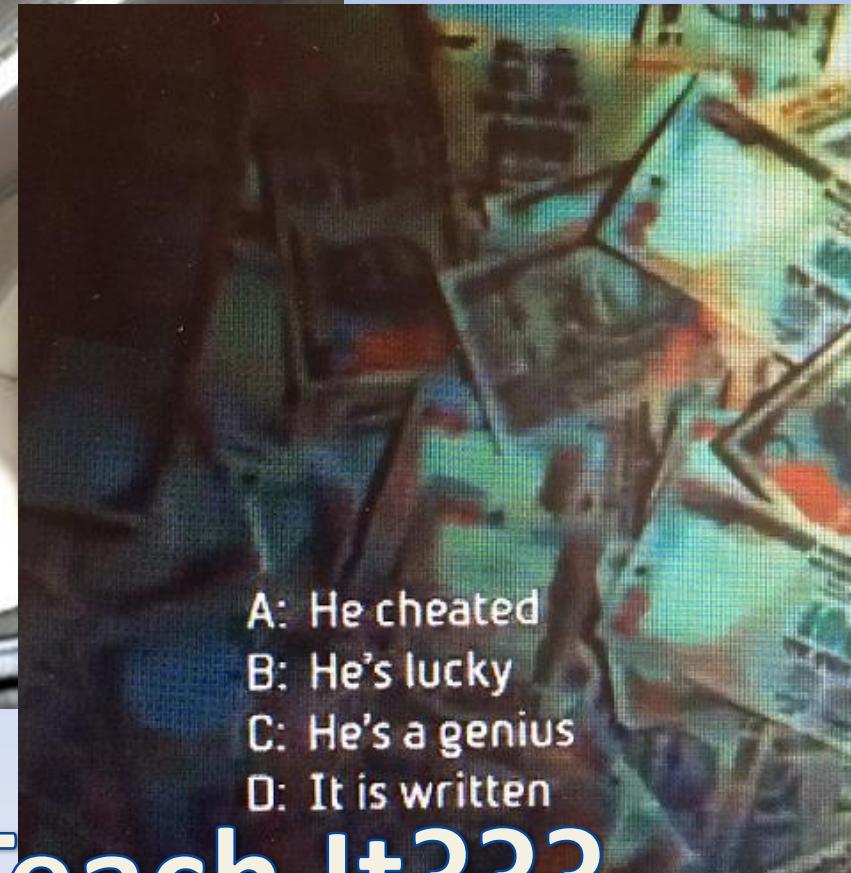
Where Am I????

MAGNA MAIIS

Summer Question Still: How did you do it???



How Should I Teach It???

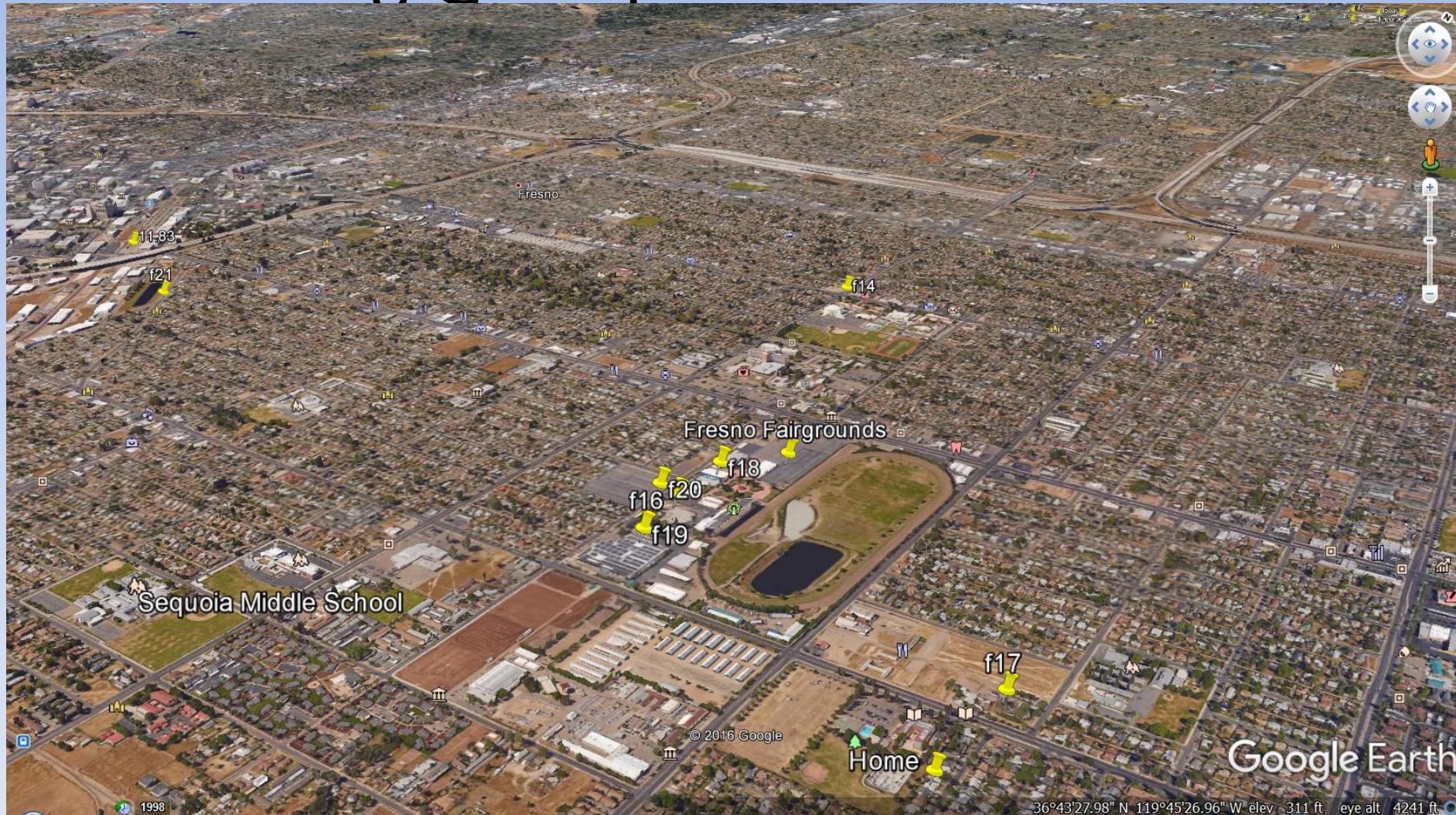


- A: He cheated
- B: He's lucky
- C: He's a genius
- D: It is written

Who I Am

- I am first-generation student from Fresno
 - Lane Elementary->Sequoia->Roosevelt (80)
 - Fresno State (84 – Math/CS Option)

Father Floyd Fresno Career Custodian Ending @ Sequoia Middle School



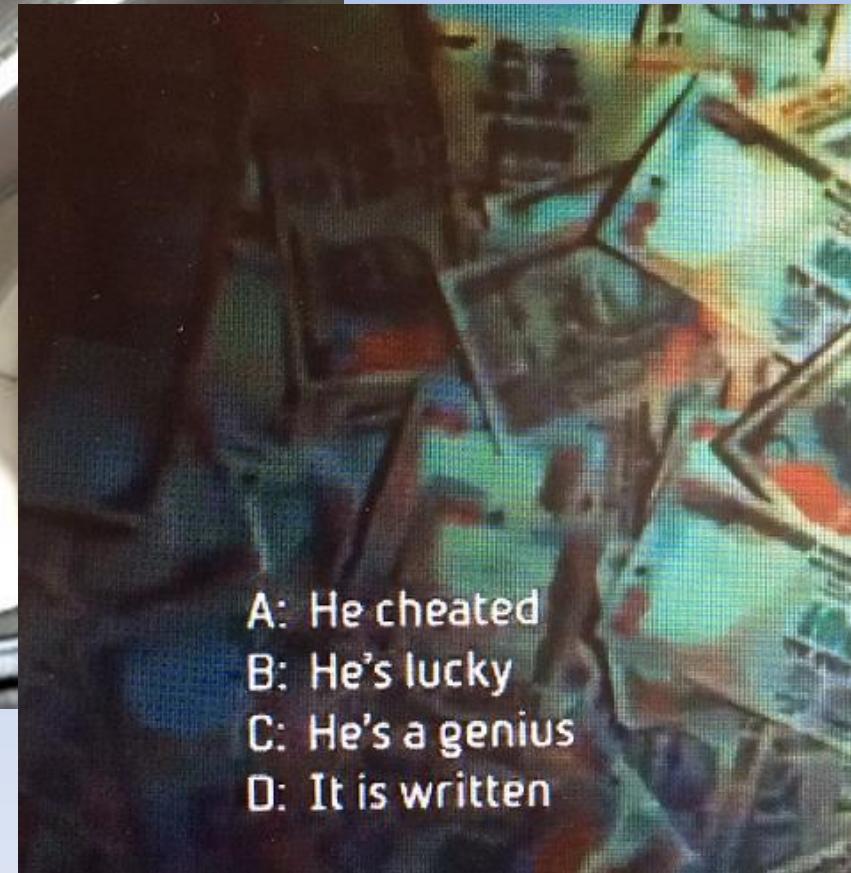
Google Earth

36°43'27.98" N 119°45'26.96" W elev 311 ft eye alt 4241 ft

Who I Am

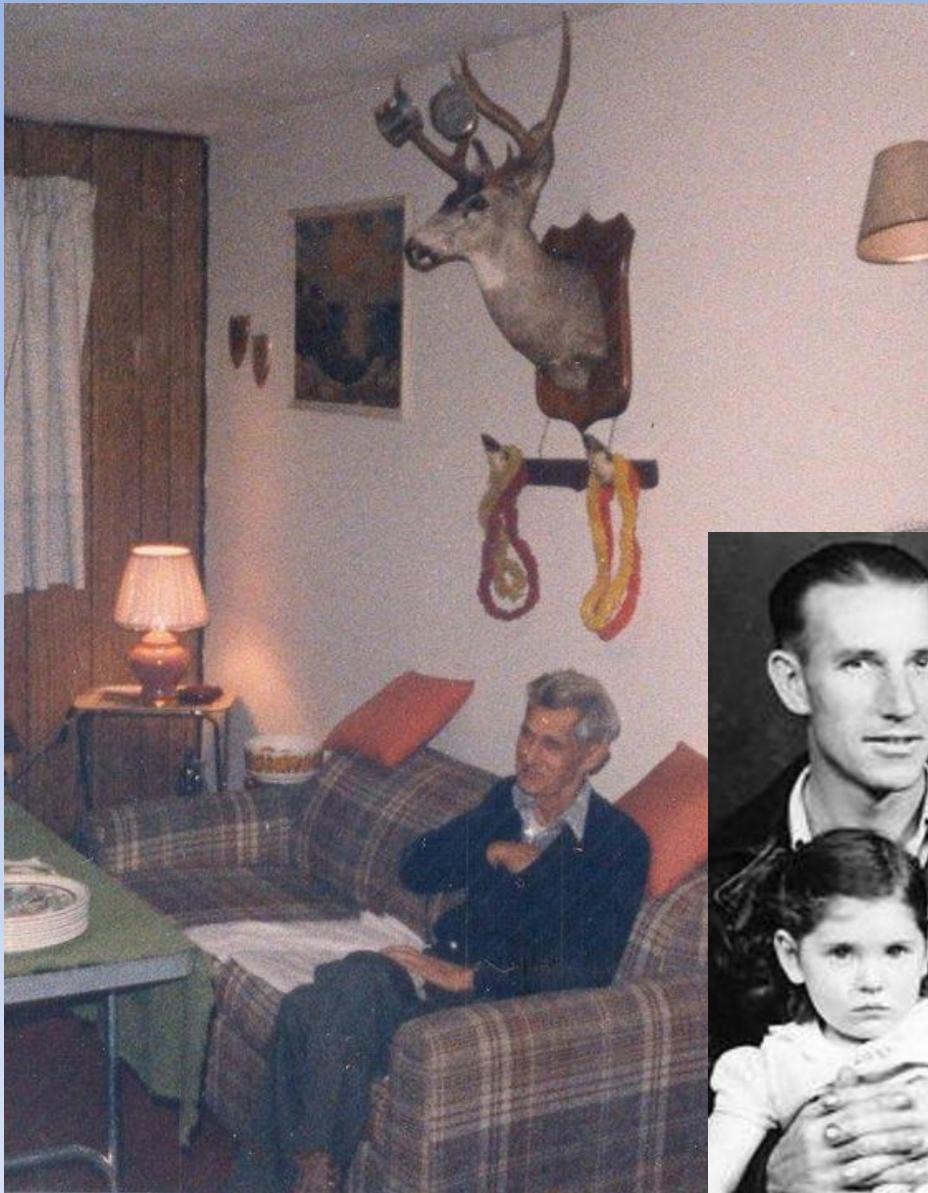
- I am first-generation student from Fresno
 - Lane Elementary->Sequoia->Roosevelt (80)
 - Fresno State (84 – Math/CS Option)
- I am a Programmer
 - Edwards AFB ‘84, UCI ‘86, US Amada ‘94, Xerox ‘96, Hewitt (AON) ‘06
- I am a Lecturer
 - Fresno State ‘13
 - 40, 126, 164, 166, 174, 191T, 226, 264

Learning to Code: How did you do it???

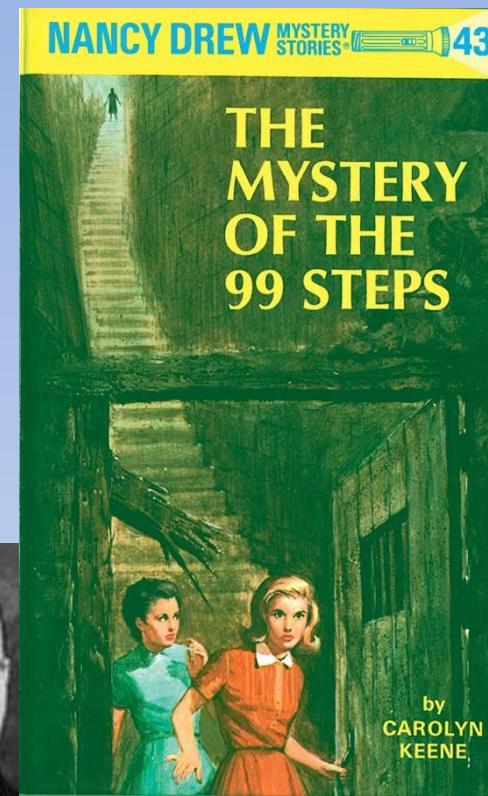


- A: He cheated
- B: He's lucky
- C: He's a genius
- D: It is written

Interest In Puzzles



- Family
Memories



Memories.. eXciting Puzzles !

- Home Hedges Maze Crawwwwwl !
- Also – First time w/ Sliding Tile Puzzle



PhD Thesis:

Tile-Sliding Puzzle

Start State

1	2	3
4		6
7	5	8



1	2	3
4	5	6
7		8



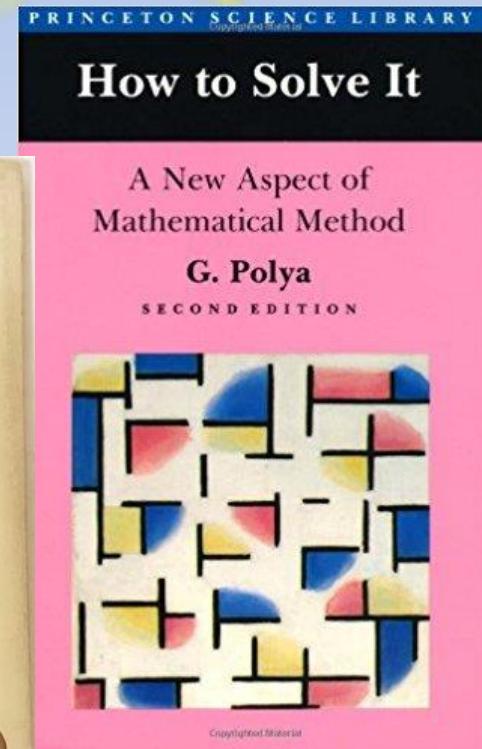
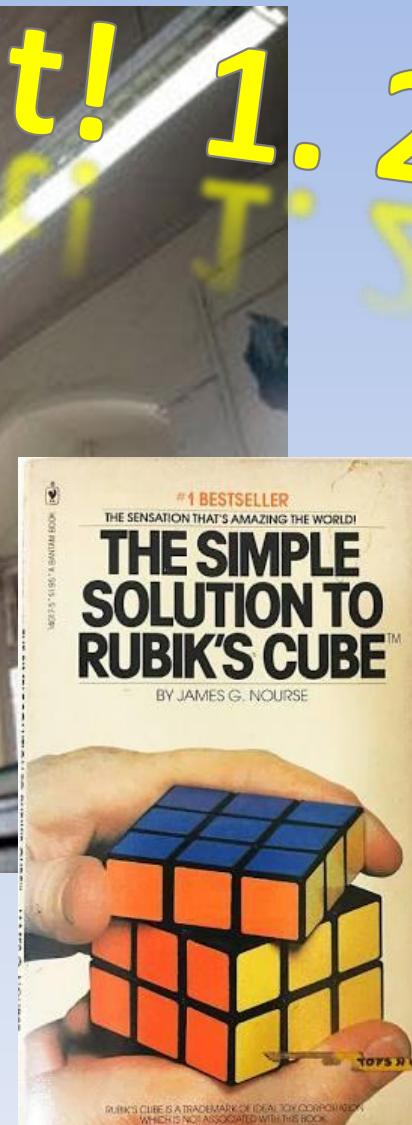
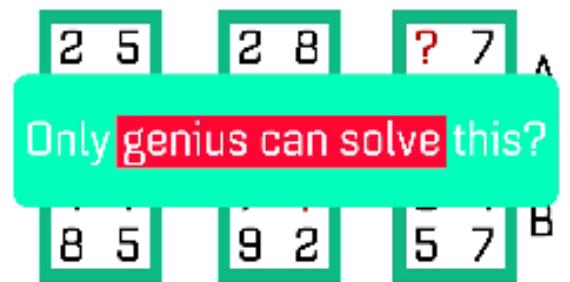
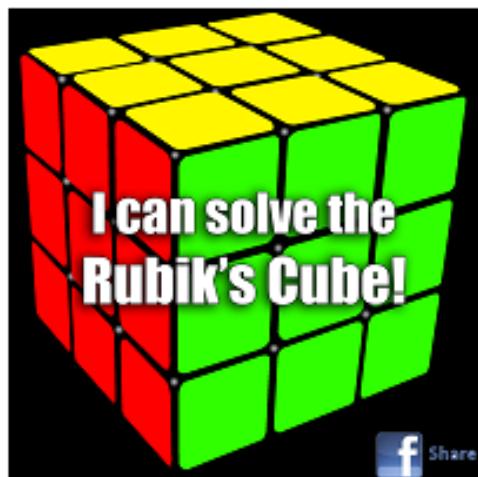
1	2	3
4	5	6
7	8	

Goal State



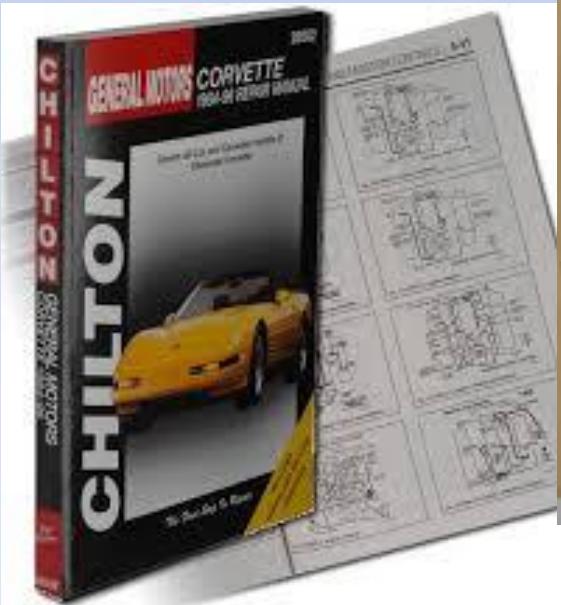
How did you do it??? Read Books!

I Can Solve It!



Repair Manuals

- Sometimes Confusing!
- Where's the part?
- Doesn't Match Picture!
- Not Shown in Picture!

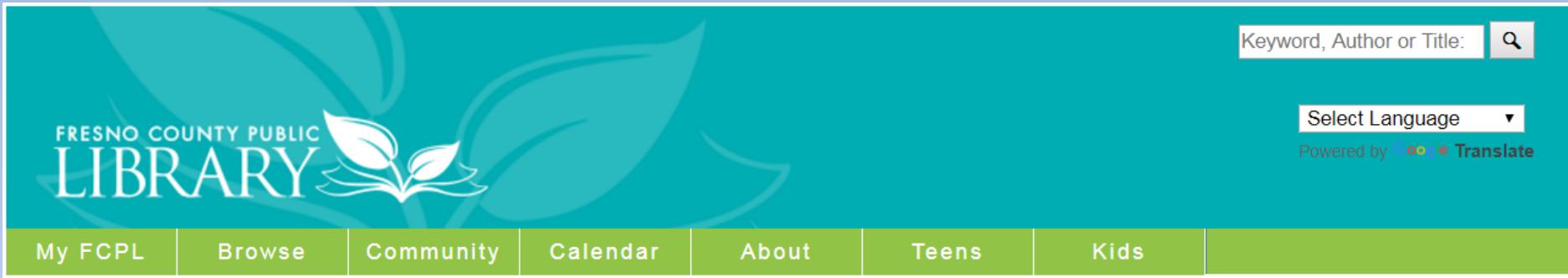


I C(K)an Easily Assemble

- Sometimes Confusing!
- Where's the part?
- Doesn't Match Picture!
- Not Shown in Picture!



Books. Books.. Books...



The screenshot shows the Fresno County Public Library website. At the top right is a search bar with the placeholder "Keyword, Author or Title:" and a magnifying glass icon. Below it is a "Select Language" dropdown menu set to English, with a note below stating "Powered by Google Translate". The main navigation menu includes links for "My FCPL", "Browse", "Community", "Calendar", "About", "Teens", and "Kids". The header features a teal background with large white text "FRESNO COUNTY PUBLIC LIBRARY" and a stylized graphic of three leaves.



- Frequent Visits

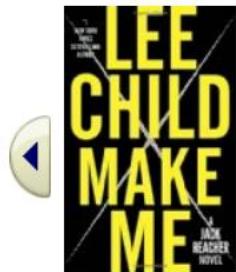


Books. Books.. Books...

The New York Times Best Sellers

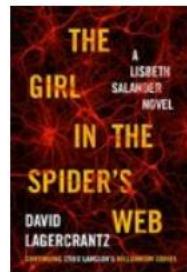
Hardcover Fiction and Nonfiction | Trade Paperback Fiction | Advice & How-To | Children's Picture Books

Hardcover Fiction Best Sellers



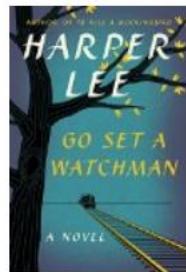
Make Me: A Jack Reacher Novel

► Lee Child
Hardcover
★★★★★ (1,035)
\$28.99 \$17.39 Prime



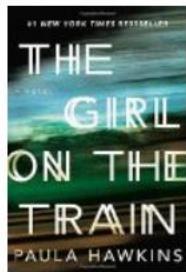
The Girl in the Spider's Web: A...

► David Lagercrantz
Hardcover
★★★★★ (1,030)
\$27.95 \$16.77 Prime



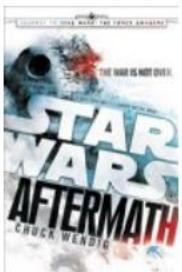
Go Set a Watchman: A Novel

► Harper Lee
Hardcover
★★★★★ (6,960)
\$27.99 \$16.07 Prime

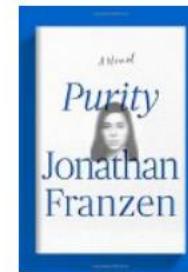


The Girl on the Train

► Paula Hawkins



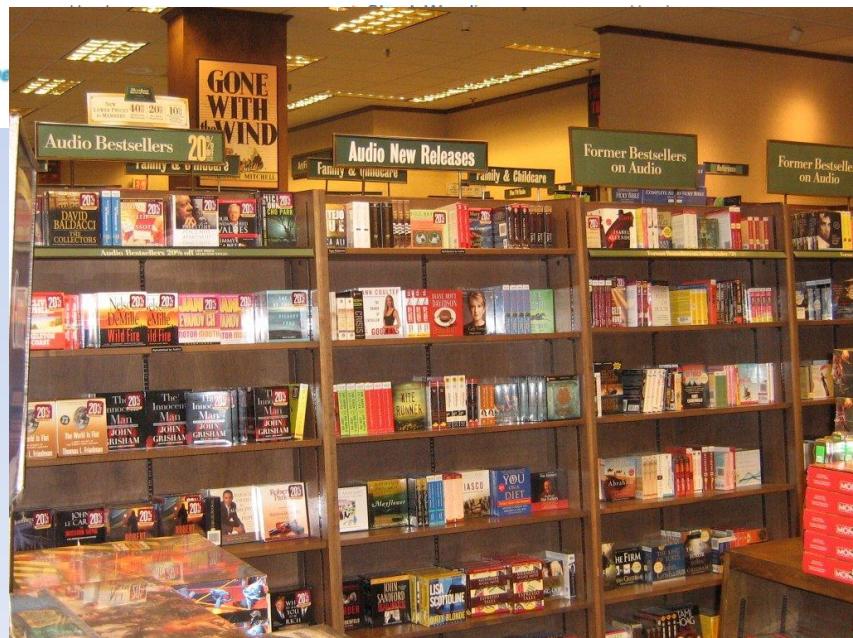
Aftermath: Star Wars: Journey to Star...



Purity: A Novel

Page 1 of 4

• Frequent Visits



Computer Science

CSCI 164. Artificial Intelligence Programming

Prerequisite: CSCI 117. Introduction to problem-solving methods from artificial intelligence. Production systems. Knowledge-based systems. Machine learning. Topics chosen from fuzzy logic, neural network models, genetic algorithms. Verification, validation, testing.

Units: 3

CSCI 166. Principles of Artificial Intelligence

Prerequisite: CSCI 164. Analysis of knowledge-based and neural models, including self-organization, sequential learning models, neurally inspired models of reasoning and perception. Integration of different paradigms.

Units: 3

CSCI 126. Database Systems

Prerequisites: CSCI 124. Database concepts; hierarchical and relational network models; object-oriented data models. Data normalization, data description languages, data manipulation languages, and query design.

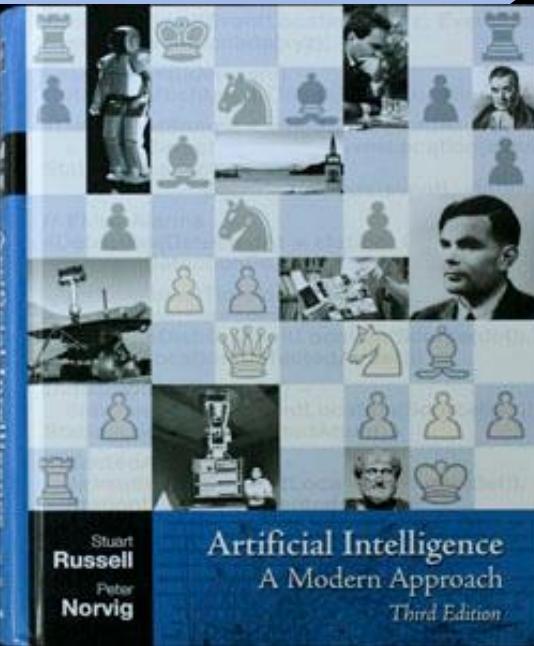
Units: 3

Course Typically Offered: Spring

CSCI 174. Design and Analysis of Algorithms

Prerequisites: CSCI 115, CSCI 119. Models of computation and measures of complexity, algorithms for sorting and searching, set representation and manipulation, branch and bound, integer and polynomial arithmetic, pattern-matching algorithms, parsing algorithm, graph algorithm, NP-complete problems.

Units: 3



CSCI 174. Design and Analysis of Algorithms

Prerequisites: CSCI 115, CSCI 119. Models of computation, measures of complexity, algorithms for sorting, representation and manipulation, branch-and-bound, polynomial arithmetic, pattern-matching algorithms, graph algorithm, NP-complete problems

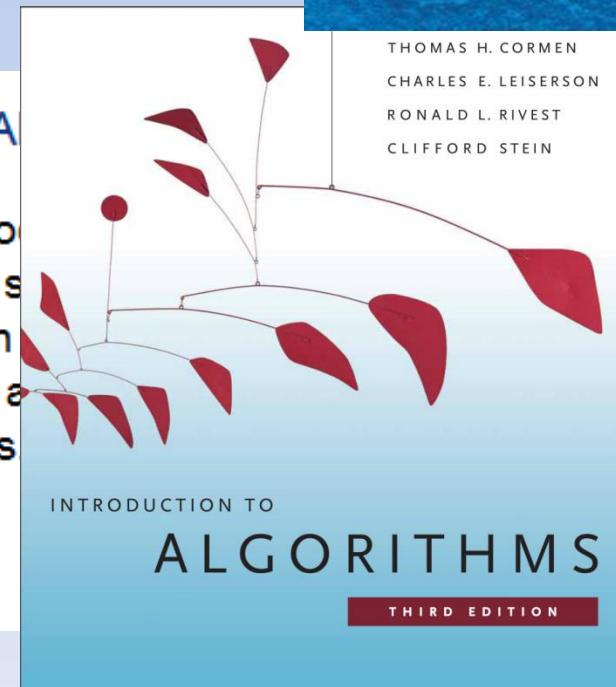
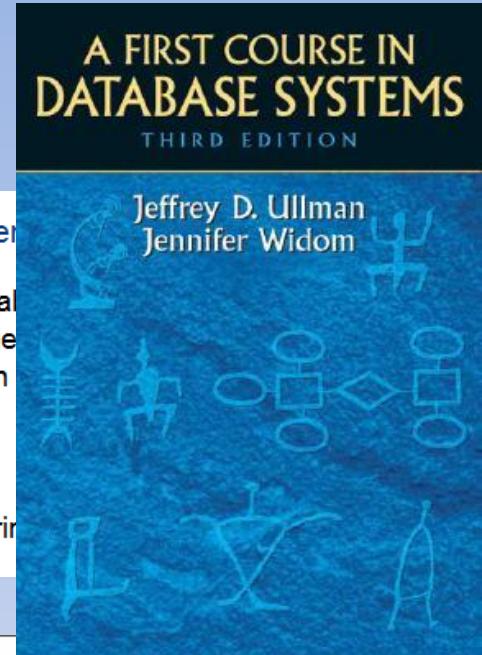
Units: 3

CSCI 126. Database Systems

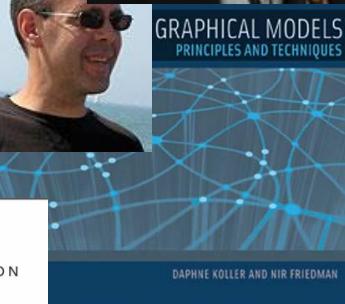
Prerequisites: CSCI 124. Data structures, relational algebra, relational network models; object-oriented modeling, normalization, data description languages, and query design.

Units: 3

Course Typically Offered: Spring



Computer Science

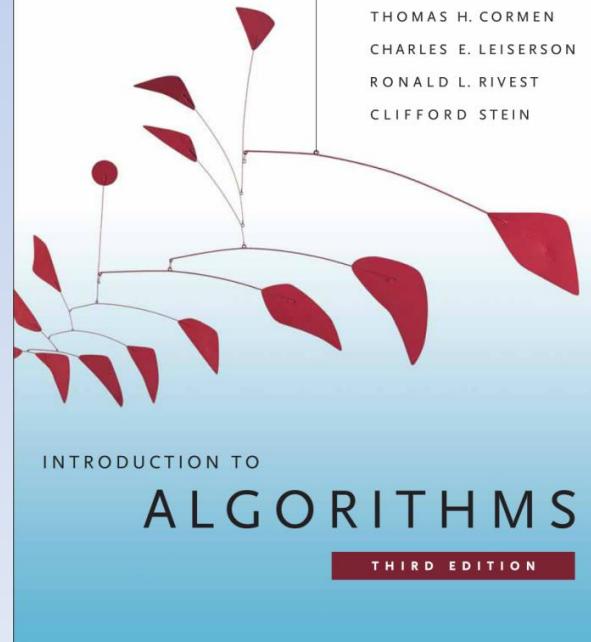


Stuart

Russell

Artificial Intelligence

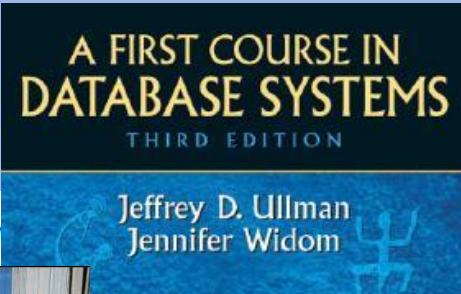
THOMAS H. CORMEN
CHARLES E. LEISERSON
RONALD L. RIVEST
CLIFFORD STEIN



: CSCI 115, CSCI 119.
complexity, algorithms
n and m
ithmetic
um, NP-



CSCI 126. Database Systems



Not Altogether Satisfying Answer: Books & Community

- Books provided knowledge store
- Communities working together solve real world problems

Issue: Community

- Local Tech Community

Community: Fresno Tech



Fresno Tech

Home Members Photos Pages Discussions More

 My profile



Fresno, CA
Founded Jul 18, 2015

[About us...](#)

 [Invite friends](#)

Pythonistas 126
Group reviews 2
Upcoming 6
Meetups

Monthly Meetup

 Print ticket  Export  Tell a friend  Share

 **Tuesday, January 24, 2017**
6:30 PM

 **Bitwise South Stadium**
700 Van Ness, Fresno, CA ([map](#))

Downstairs in Classroom #5

We'll hang out, talk about Python, and someone will probably give a talk. Snacks and drinks will be provided.

Hey david, get the conversation started!



Ask a question, share something, or leave a comment...

Your RSVP: Yes

[Change](#)

[Invite a friend](#)

4 going

 **david**
Enjoy Algorithms & AI w/ Python
(<https://github.com/david>)

 [Edit your intro](#)

 **Derek Payton**
Organizer,
Event Host
I write code (usually in Python) and build web apps (usually with Django).

Branch: master | ics1293 / Code / ipynb / ImagesInVidExample.ipynb

everestso C9 Check

1 contributor

226 lines (225 sloc) | 215 KB

Raw Blame History

Display Image in Video w/ OpenCV

Uses:

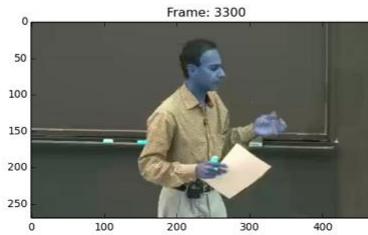
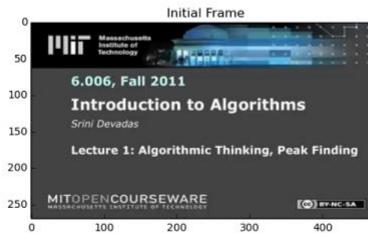
- OpenCV (cv2)
- numpy/matplotlib
- Linux Platform

```
In [1]: %matplotlib inline
```

```
In [3]: import sys
import numpy as np
import matplotlib.pyplot as plt
import cv2
```

```
In [7]: def displayImageFrame(videoFile, displayFrameNum):
    frame = 0
    cap = cv2.VideoCapture(videoFile)
    print cap
    ret, frame = cap.read()
    print ret, frame
    iPause = 0
    iPosition = 1
    iSkip = 0
    iPosition = 0
    iSkip = 0
    key = 0
    plt.title("Initial Frame")
    plt.imshow(frame)
    plt.show()
    while(cap.isOpened()):
        if not iPause:
            ret, frame = cap.read()
            iPosition += 1
            if not ret: break
        if iSkip:
            iPosition += 1
            print 'd'
            if iSkip % 500==0: print iPosition
            continue
        if iPosition == displayFrameNum:
            plt.title("Frame: " + str(displayFrameNum))
            plt.imshow(frame)
            plt.show()
        while(cap.isOpened()):
            if not iPause:
                ret, frame = cap.read()
                iPosition += 1
                if not ret: break
            if iSkip:
                iSkip -= 1
                print 'd'
                if iSkip % 500==0: print iPosition
                continue
            if iPosition==displayFrameNum:
                plt.title("Frame: " + str(displayFrameNum))
                plt.imshow(frame)
                break
        # gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)

#cv2.imshow('frame',gray)
#cv2.namedWindow('f2', flags=cv2.WINDOW_NORMAL)
#cv2.imshow('f2', frame)
#file_jpgdata = StringIO(frame)
#dt = Image.open(file_jpgdata)
#plt.imshow(frame)
#    key = cv2.waitKey(waitTime)
```



iPython Notebook

```
def DisplayImageFrame(videoFile, displayFrameNum):
    frame = 0
    cap = cv2.VideoCapture(videoFile)
    print cap
    ret, frame = cap.read()
    print ret, frame
    iPause = 0
    waitTime = 1
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    key = 0
    plt.title("Initial Frame")
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                plt.imshow(frame)
                break
        # gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)

#cv2.imshow('frame',gray)
#cv2.namedWindow('f2', flags=cv2.WINDOW_NORMAL)
#cv2.imshow('f2', frame)
#file_jpgdata = StringIO(frame)
#dt = Image.open(file_jpgdata)
#plt.imshow(frame)
#    key = cv2.waitKey(waitTime)
```

From Wikipedia, the free encyclopedia

Pelco Corporation, commonly referred to as **Pelco**, is an American-based security and surveillance technologies company.^[1] founded in 1957 and headquartered in [Clovis, California](#).^[2] Pelco was purchased by current parent company, [Schneider Electric](#), in 2007 and was incorporated into Schneider Electric's [Building Automation](#) business unit. Pelco products are globally distributed and frequently found in airports, malls, office buildings, factories, and on college campuses.

Contents [hide]

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- [2 Technologies](#)
- [3 Industries](#)
- [4 References](#)
- [5 External links](#)

History [edit]

Pelco Sales was founded in 1957 in by E.L. Heinrich in [Hawthorne, California](#).^[3] Heinrich created Pelco Sales as a side project to his already successful mechanical [aviation](#) business. Pelco Sales first product line consisted of pan-tilt devices and [joysticks](#) designed to remotely control the position of [television cameras](#). The demand for Pelco Sales' products grew rapidly resulting in Heinrich's decision to abandon aviation and focus on camera technologies. The company was moved to [Gardena, California](#) and then again to [Fresno, California](#) to provide adequate work space for product production. In June 1987 Rod Heinrich sold Pelco Sales to local investor David McDonald shortly after approving plans for an 80,000 square foot facility in [Clovis, California](#). McDonald truncated the name to *Pelco*, commonly referred to as the beginning of the "new" Pelco.^[4] The company continued to expand reaching distribution in more than 130 countries.^[5] In 2007 French power company, [Schneider Electric](#) purchased Pelco for US\$1.22 billion^[6] in an effort to enhance their [building automation](#) business. Pelco's [security](#) and [surveillance](#) systems most notably protect [Buckingham Palace](#), [The Statue of Liberty](#), and China's [Presidential Palace](#).^[7]

Pelco Corporation

Type	Subsidiary
Industry	Security and surveillance technology
Founded	1957
Headquarters	Clovis, California, U.S.
Number of locations	Global
Key people	Herve Fages (SVP Video Line of Business)
Products	Security cameras, video management systems, matrix systems
Revenue	US\$400 million (2014)
Number of employees	1,200 (2012)
Parent	Schneider Electric
Website	www.pelco.com



“ I don’t believe that we would be successful today without Famous. ”

Harold McClarty
President, HMC Marketing
Famous User Since 1989

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1 2 3 4 5 6

Why Famous?

- [Testimonials](#)
- [Our Products](#)
- [Our Experienced Team](#)
- [Outstanding Support](#)
- [Professional Services](#)
- [Installed Base](#)
- [Famous Business Intelligence](#)
- [Mobile Warehouse Management](#)

Print from Estimates
No data re-entry required
Print/reprint tags in the field
Multilingual
Multiple label styles



*"It's kind of a no brainer"
"A partnership"
"Tripled our business"
"Never been down—ever!"
"We cannot live without it"*



MOBILE FIELD TAG PRINTING

Put the Famous features you need for field case tagging in the palm of your hand. Fully integrated, PTI-style case tagging for your harvest crews. Takes tagging to the next level of convenience and accuracy.

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We love hearing from our customers. We asked a few to tell us about their experiences with Famous Software. Read some of their reactions here.

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- [Brokers?](#)
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- [Looking for a Great Career?](#)
- [Joining a GoToMeeting?](#)
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Decipher

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DECIPHER

24TRU

REVELATION

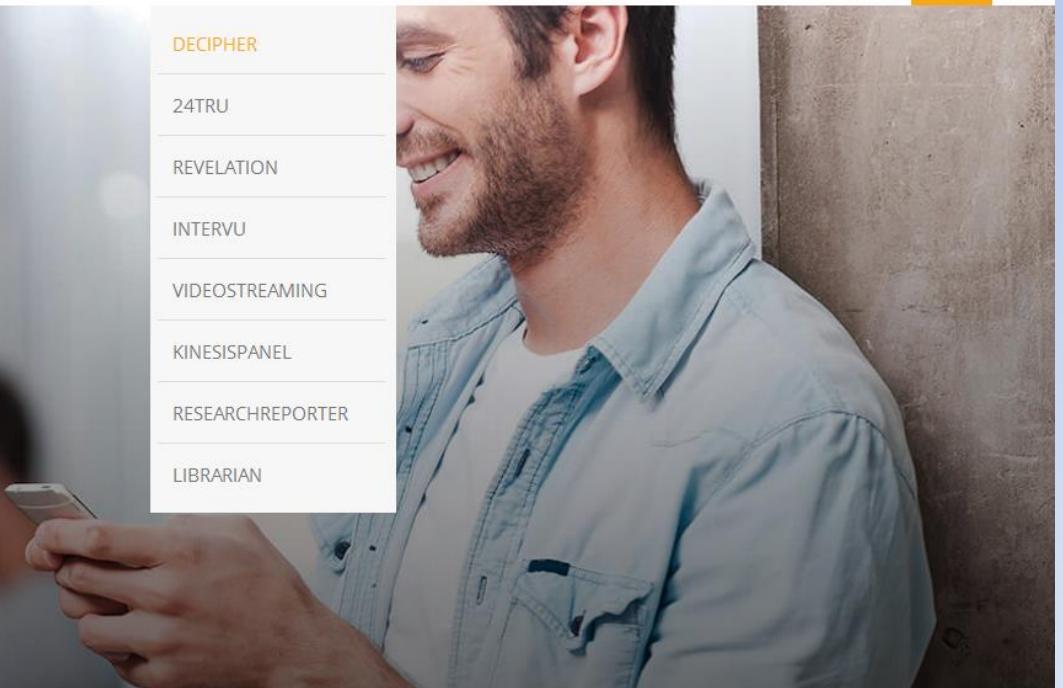
INTERVU

VIDEOSTREAMING

KINESISPANEL

RESEARCHREPORTER

LIBRARIAN



Granville Homes



Fresno County Farm Bureau

[Home](#) : [Friends of the Family Farm](#) : [Spotlight: Granville](#)

Granville Homes: Deep Roots in the Community

When most think of Granville Homes (Granville), agriculture is not usually the first thought that comes to mind. However, the Assemi family recognizes much of their success and that of the community is due to the agricultural industry. "Without a strong agricultural community, the Central Valley would not be much. Farming is the lifeline of Central California," Granville CEO Darius Assemi said. The family has deep roots in agriculture; they previously farmed pistachios in Iran.

For 40 years, Granville has forged a strong foundation in Fresno County. The company has developments in nearly every part of Fresno, including a strong presence downtown. They have recently expanded to Shaver Lake with the Sunrock community.

Established in 1977 by the Assemi family, Granville stands by their mission of "Building a better home creates a brighter future for all they serve." The company has built over 5,700 homes in the Central Valley. They are known for their innovative designs with progressive building techniques. "I love what we do. We are surrounded by a great team that works and plays well



Built with Love and Passion

Darius Assemi
President of Granville Homes



Fresno Tech Enthusiasts

Bitcoin Fresno

Home Members Photos Discussions More

 My profile



bitcoin

Fresno, CA

Founded Jan 23, 2017

[About us...](#)

[+ Invite friends](#)

Satoshis

95

Group reviews

3

Upcoming

5

Talking About Bitcoin

 Export  Tell a friend  Share

 Wednesday, September 13, 2017
7:00 PM

 Bitwise South Stadium
700 Van Ness Ave, Fresno, CA ([map](#))

Our official ongoing monthly meeting held on the second Wednesday of each month.

Hey david, get the conversation started!



Ask a question, share something, or leave a comment...

[Post](#)

Are you going?

[Yes](#)

[No](#)

1 going



Kurt

Organizer,
Event Host

Native to California
but new to Fresno.
I love
snowboarding,
drinking, and
learning as much
as... [more](#)

Bitcoin & Distributed Networks

Peer-To-Peer Networks

Napster v2.0 BETA 5

File Actions Help

Chat Library Search

Search Fields

Artist: public enemy

Song Title:

Max Results: 100

Advanced Options

Bit Rate

Frequency

Ping Time

Line Speed

Clear Fields Find It!

Sean Parker
HIS NETWORK OF BILLIONAIRES CONTROLS THE INTERNET

Filename	Filesize	Bitrate	Freq	Length	User	Line Speed	Ping
Hard Rock\StainD with Fred Durst and DJ ...	3,665,975	128	44100	3:49	Emub7	DSL	N/A
Public enemy & Anthrax-Bring the noise.mp3	3,343,410	128	44100	3:30	Tish69	Unknown	N/A
Puff Daddy - Public Enemy Num one.mp3	3,925,055	128	44100	4:05	CSUFA...	T1	N/A
Music\Public Enemy [He Got Game].mp3	3,787,920	128	44100	3:57	Joe-dog...	Cable	N/A
Music\Public Enemy - Don't Believe the Hy...	6,378,628	160	44100	5:17	gonzshi...	56K Modem	N/A
Music\Public Enemy - Do You Wanna Go ...	3,766,271	128	44100	3:55	metbar	Cable	N/A
Music\Public Enemy - Fight the power.mp3	3,826,536	128	44100	3:59	gonzshi...	56K Modem	N/A
Old School\Anthrax_n_Public_Enemy-Bring...	3,334,814	128	44100	3:29	Shock...	T1	N/A
another cd\StainD with Fred Durst and DJ ...	3,657,728	128	44100	3:49	Wingma...	Cable	N/A
Public Enemy - He Got Game.mp3	4,564,610	128	44100	4:44	bmathis27	T1	N/A

Returned 100 results.

Get Selected Song(s) Add Selected User to Hot List

Online (User) Sharing 0 Songs. Currently 709,082 songs (2.845 gigabytes) available in 4,708 libraries.



BitTorrent, Inc.

Internet

51-200 employees

[Home](#)

[Careers](#)

BitTorrent, Inc. is one of the world's leading peer-based technology companies. We maintain a globally recognized ecosystem of technology protocols, consumer software, and consumer electronics devices that help people find, share and move digital media. We are the creators of the BitTorrent protocol and proponents of an open Internet. Our technologies are used by hundreds of millions of people around the world and currently drive between 20% and 40% of global Internet traffic.

Want to work with us? Visit our careers page for current openings and help us shape the future of the web.

<http://www.bittorrent.com/company/about/jobs>

Specialties

BitTorrent, Social Sharing, Consumer Software, uTorrent, Apps, BTML, Live Streaming, p2p, peer to peer, networking

Website

<http://www.bittorrent.com>

Industry

Internet

Type

Privately Held

Headquarters

303 2nd Street Suite S600 San Francisco, CA 94107 United States

Company Size

51-200 employees

Founded

2004

File Options Help

Find Content

- Torrents (1)
 - Downloading (1)
 - Completed (0)
 - Active (1)
 - Inactive (0)
 - Labels (1)

Feeds (0)

Apps (32 new)

Name	#	Size	Done	Status		Seeds	Peers	Down Speed	Up Speed	ETA
Super OS 11.04 64 bits Ubuntu-L... 1 1.19 GB 0.0% Downloading 4 (23) 1 (10) 2.9 kB/s 3w1d										

General
Trackers
Peers
Pieces
Files
Speed
Logger

Downloaded: 0.0 %

Availability: 4.031

Transfer

Time Elapsed:	10s	Remaining:	3w1d	Wasted:	0 B (0 hashfails)
Downloaded:	16.0 kB	Uploaded:	0 B	Seeds:	4 of 5 connected (23 in swarm)
Download Speed:	2.9 kB/s (avg. 1.5 kB/s)	Upload Speed:	0.0 kB/s (avg. 0 B/s)	Peers:	1 of 28 connected (4 in swarm)
Down Limit:	∞	Up Limit:	∞	Share Ratio:	0.000
Status:	Downloading				

General

Save As:	C:\Users\Softonic ES\Downloads\Super OS 11.04 64 bits Ubuntu-Linux based		
Total Size:	1.19 GB (16.0 kB done)	Pieces:	1220 x 1.00 MB (have 0)
Created On:	31/05/2011 0:10:47		
Hash:	95A2B4E4 517A6B55 177FE6E2 71985243 70F27522		
Comment:	Auto-generated torrent by Mininova.org CD		

DHT: 258 nodes (Updating)

D: 3.2 kB/s T: 414.7 kB

U: 0.9 kB/s T: 75.8 kB





Anonymity Online

Protect your privacy. Defend yourself against network surveillance and traffic analysis.



Download Tor

- ▶ Tor prevents people from learning your location or browsing habits.
- ▶ Tor is for web browsers, instant messaging clients, and more.
- ▶ Tor is free and open source for Windows, Mac, Linux/Unix, and Android

What is Tor?

Tor is free software and an open network that helps you defend against traffic analysis, a form of network surveillance that threatens personal freedom and privacy, confidential business activities and relationships, and state security.

[Learn more about Tor »](#)

Why Anonymity Matters

Tor protects you by bouncing your communications around a distributed network of relays run by volunteers all around the world: it prevents somebody watching your Internet connection from learning what sites you visit, and it prevents the sites you visit from learning your physical location.

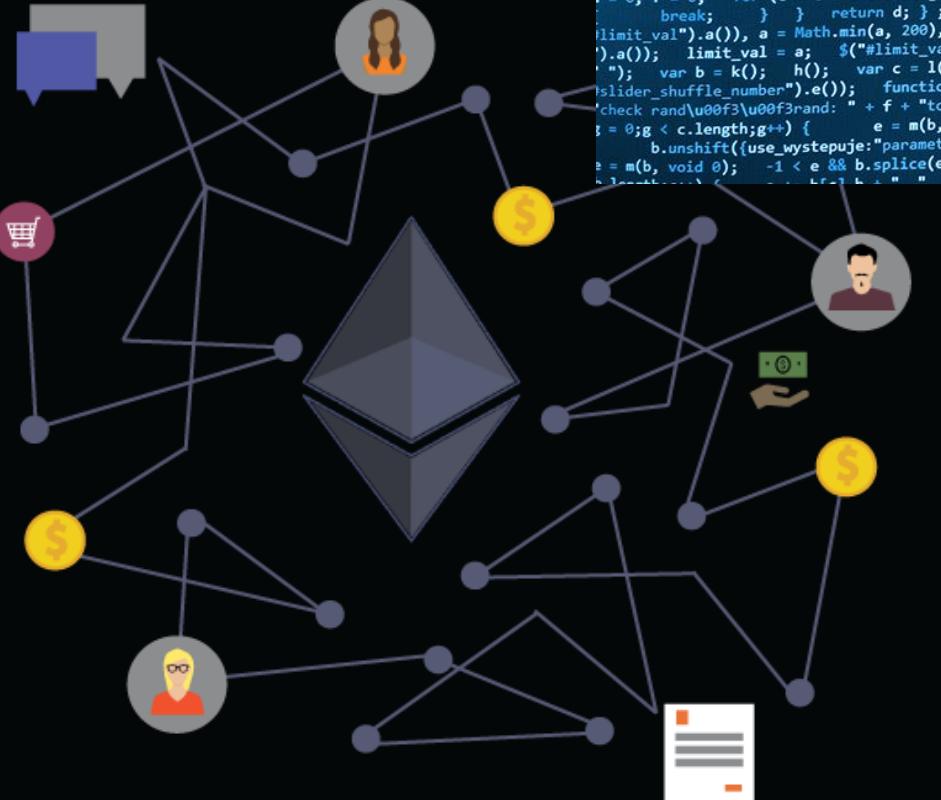
[Get involved with Tor »](#)

Bitcoin & Blockchain

- Ledger as Distributed Database

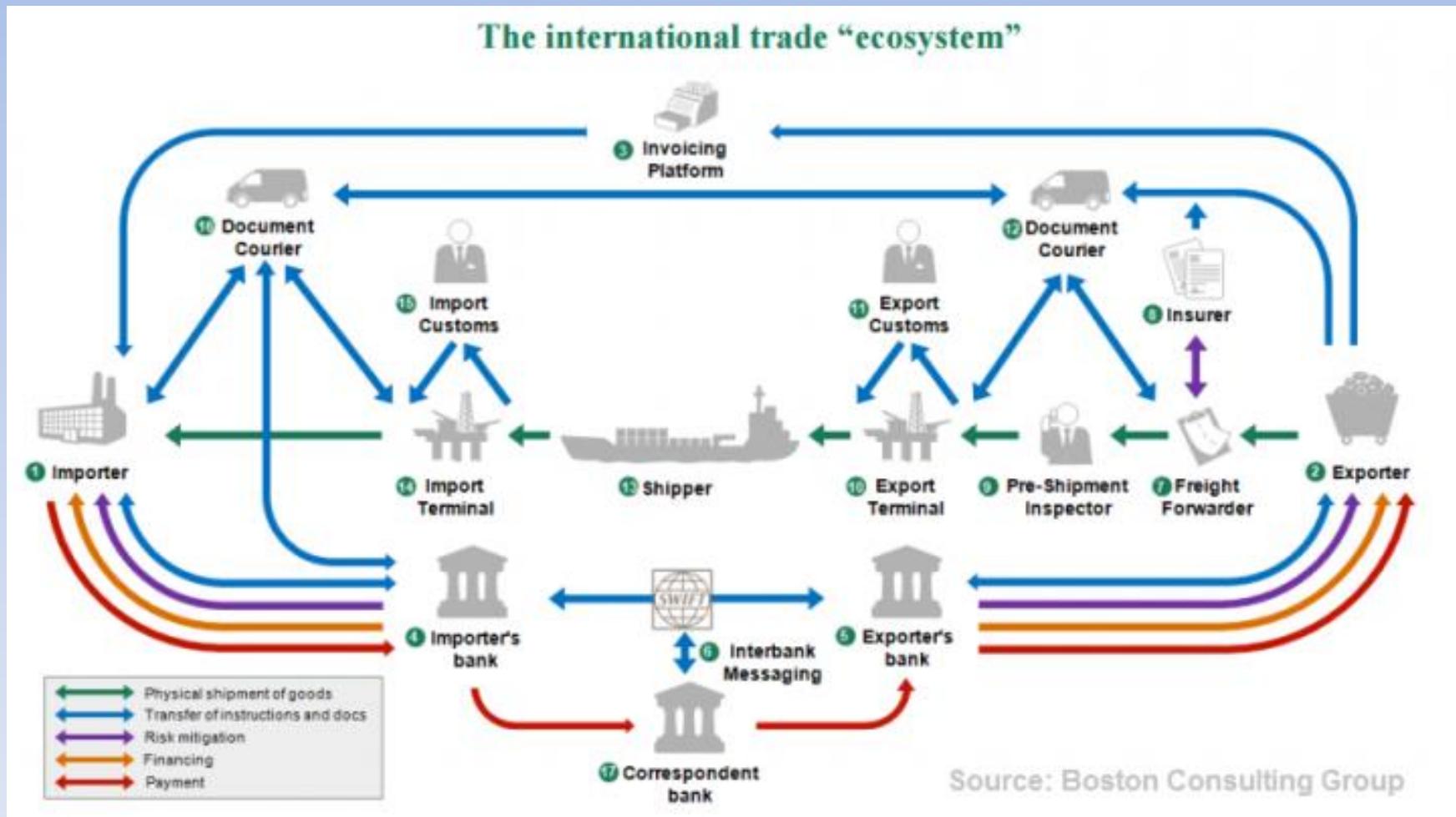


Ethereum & Blockchain Apps



The image features a central 3D wireframe model of the Ethereum logo, which is a hexagon with a diagonal line from the top-left vertex to the bottom-right vertex. The model is composed of thin grey lines. It is set against a background of several lines of computer code, primarily in JavaScript, which are partially obscured by the wireframe. The code includes functions like `collect`, `new_user`, `licencenie`, `function_count_array_gen`, `indexOf_keyword`, `indexOf_new RegExp`, `czy_juz_zwrocil`, and various `parse` and `update` methods. The overall aesthetic is technical and futuristic.

Blockchain & International Trade



International Trade Today

!! Maze of Regulations

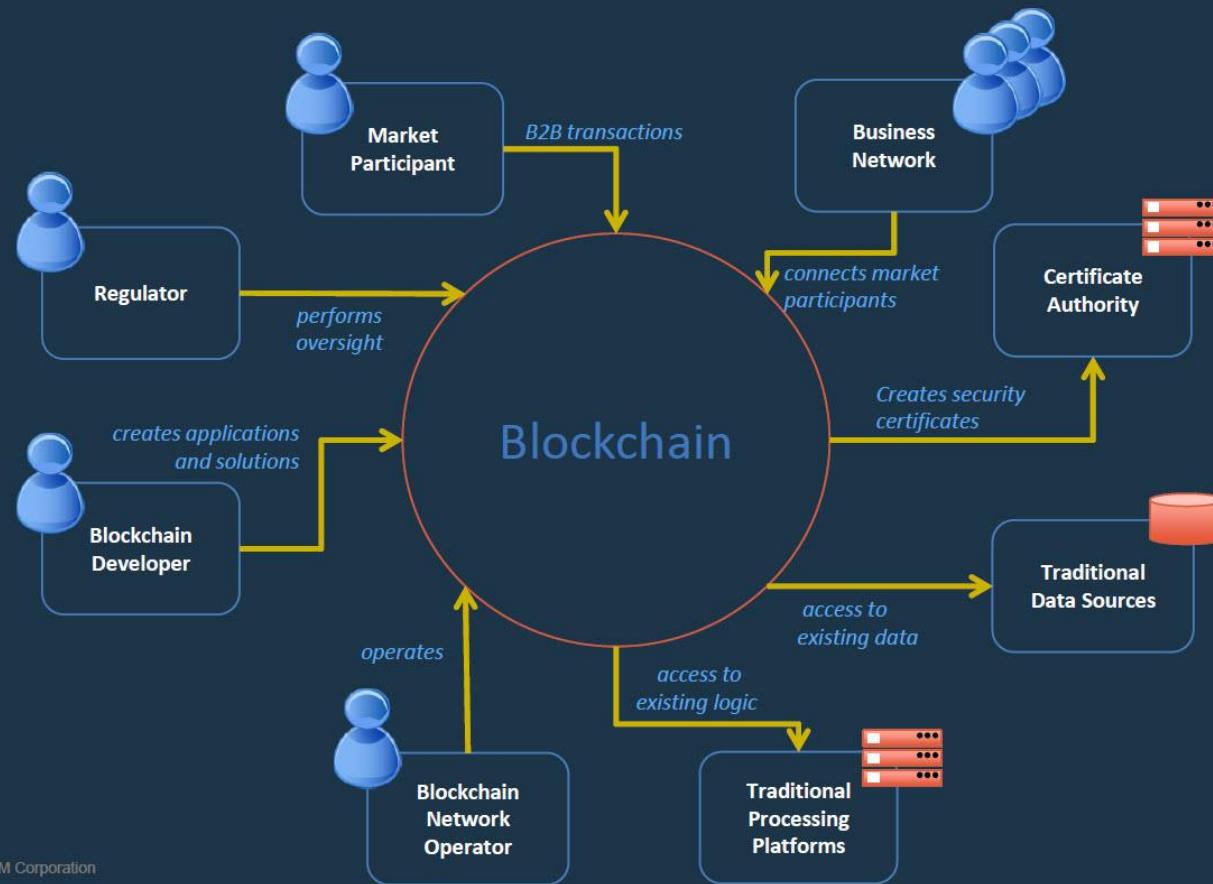


!! Lack of transparency



!! Manual, inefficient process

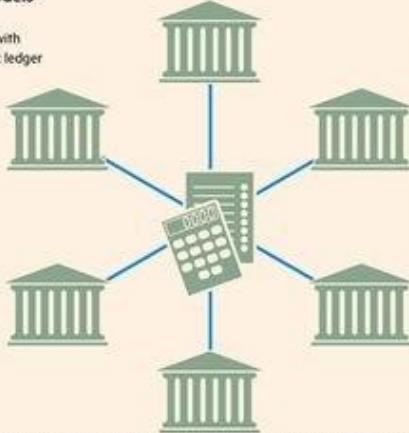
The Participants in a Blockchain Network



The three models

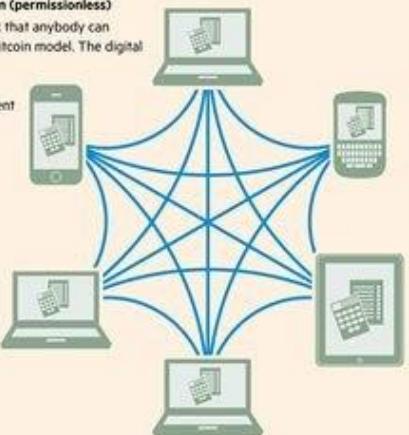
Current system

All banks check with central electronic ledger



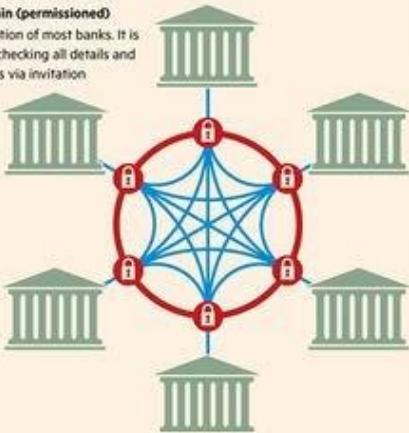
Public blockchain (permissionless)

An open network that anybody can access, like the bitcoin model. The digital ledger of transactions is shared, transparent and run by all participants



Private blockchain (permissioned)

The preferred option of most banks. It is a closed system checking all details and controlling access via invitation



How a blockchain works

1

A wants to send money to B



2

The transaction is represented online as a 'block'



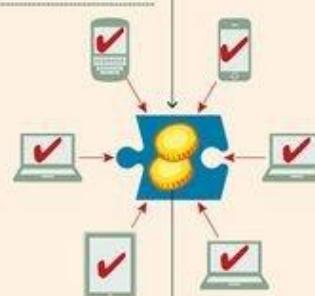
3

The block is broadcast to every party in the network



4

Those in the network approve the transaction is valid



5

The block then can be added to the chain, which provides an indelible and transparent record of transactions



6

The money moves from A to B



Database Technology Key

- Explore Core Database Technologies
 - Basics

A FIRST COURSE IN DATABASE SYSTEMS

THIRD EDITION

Jeffrey D. Ullman
Jennifer Widom

Books



DATABASE SYSTEMS

THE
COMPLETE
BOOK

SECOND EDITION

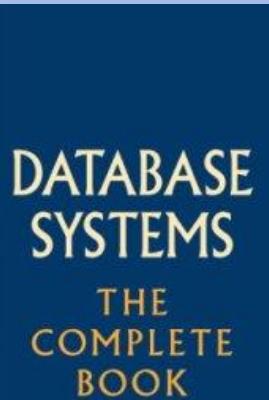
Hector Garcia-Molina
Jeffrey D. Ullman
Jennifer Widom

- Same Chapters 1-12
- I've been looking for directions w/
Advanced Material

Database Systems: The Complete Book(2nd)

by Hector Garcia-Molina,

Jeffrey D. Ullman & Jennifer Widom



Quick Links

- **Web Analytics:** Discovering trends and patterns in Web and social network data.
- **Crowdsourcing:** Using humans as a source of information.
- **Electronic Commerce:** Advertising, selling and trading goods and information.
- **Entity Resolution:** Matching information fragments on the same entity ("connecting the dots").
- **Recommendations:** Discovering interesting and unexpected information.

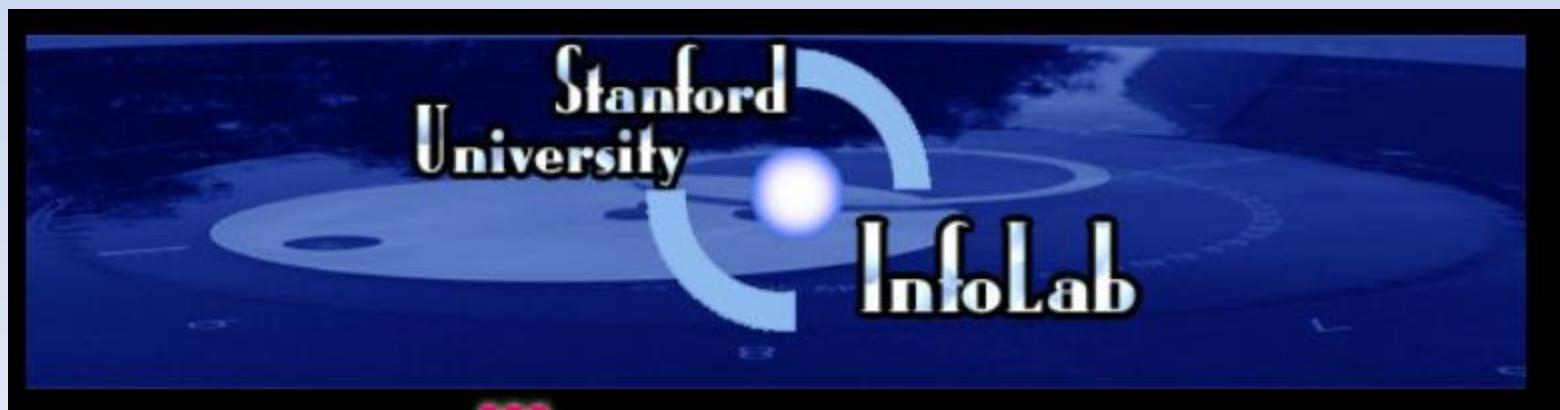
INTERESTS 2011

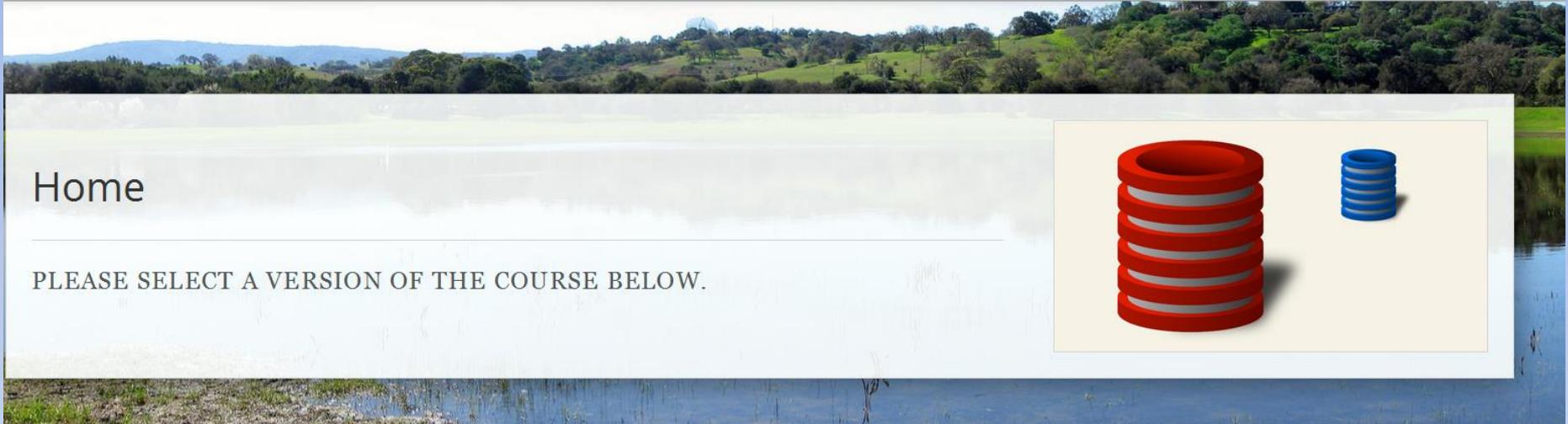
Hector Garcia-Molina, Stanford University



HOME

CURRENT INTERESTS





This screenshot shows the "JSON Data" course page. The top navigation bar has "JSON Data" as the active tab. Below the navigation, there are two buttons: a dark blue "REGISTER FOR DB3" button and a light gray "EXPLORE COURSE *" button. To the right of these buttons is a graphic of two stacks of cylinders: one stack of five red cylinders and one stack of three blue cylinders.

This screenshot shows the "Views and Authorization" course page. The top navigation bar has "Views and Authorization" as the active tab. Below the navigation, there are two buttons: a dark blue "REGISTER FOR DB12" button and a light gray "EXPLORE COURSE *" button. To the right of these buttons is a graphic of two stacks of cylinders: one stack of five red cylinders and one stack of three blue cylinders.

Stanford Online w/ Homework

- You'll do ALL the DB Courses.
- Insure a good overview of DB.
- Free

MySQL

MySQL Workbench

File Edit View Database Server Tools Scripting Help

Navigator

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

SCHEMAS

- Filter objects
- computers
- minstv2
- movies
- studentdb
- Tables

Information

No object selected

Object Info Session

Result Grid | Filter Rows: Export: Wrap Cell Content:

Result 4

sid	semester	year	CourseID	CourseDesc	units	grade	pid	IName	fName	gender	birth
50	Fall	1982	Acct 4b	Acct Prin + Sys	3	A	50	David	Ruby	M	1962-10-30
50	Fall	1982	CSci 117	Struct of Prg La	3	A	50	David	Ruby	M	1962-10-30
50	Fall	1982	Fin 104	Bus Forecasting	3	A	50	David	Ruby	M	1962-10-30
50	Fall	1982	Math 121	NUMERICAL ANL 1	3	A	50	David	Ruby	M	1962-10-30
50	Fall	1982	Spch 3	Fund Public Comm	3	A	50	David	Ruby	M	1962-10-30
50	Winter	1982	Fin 133	Prin of Finance	3	A	50	David	Ruby	M	1962-10-30
50	Spring	1983	Fin 134	Sec Analysis	3	A	50	David	Ruby	M	1962-10-30
50	Spring	1983	Math 191T	Assmby Lang Prg	3	A	50	David	Ruby	M	1962-10-30
50	Spring	1983	Math 191T	Frml Lang + Autom	3	A	50	David	Ruby	M	1962-10-30
50	Spring	1983	Math 191T	Compiler Design	3	A	50	David	Ruby	M	1962-10-30
50	Spring	1983	PE AC 130a	Golf	3	A	50	David	Ruby	M	1962-10-30

Result 2 Result 3 Result 5 Transcript 6

Action Output

Time Action Message

- 4 13:43:29 select * from Transcript join Person on Transcript.sid = Person.id 14 row(s)
- 5 13:43:29 select * from Transcript join Person on Transcript.sid = Person.id 12 row(s)
- 6 13:43:29 select * from Transcript join Person on Transcript.sid = Person.id 10 row(s)
- 7 13:43:29 select * from Transcript where (CourseID like "%Math%" or ... 12 row(s)

Output

query_block #1

GROUP ORDER

tmp table filesort

nested loop nested loop

Full Table Scan movies Non-Unique Key Lookup r1 RMIndex Non-Unique Key Lookup r2 RMIndex

```

graph TD
    A[query_block #1] --> B[GROUP]
    B --> C[ORDER]
    C -- tmp table, filesort --> D[nested loop]
    D --> E[nested loop]
    E --> F[Non-Unique Key Lookup]
    F -- r1 RMIndex --> G[Non-Unique Key Lookup]
    G -- r2 RMIndex --> H[Full Table Scan]
    H --> D
  
```

Develop DB w/ MySQL

- Extremely common relational database.
- Free

In-Class Presentations

- Class Introductions
- Research Topic
- Final Presentations

Assignment: Database Project

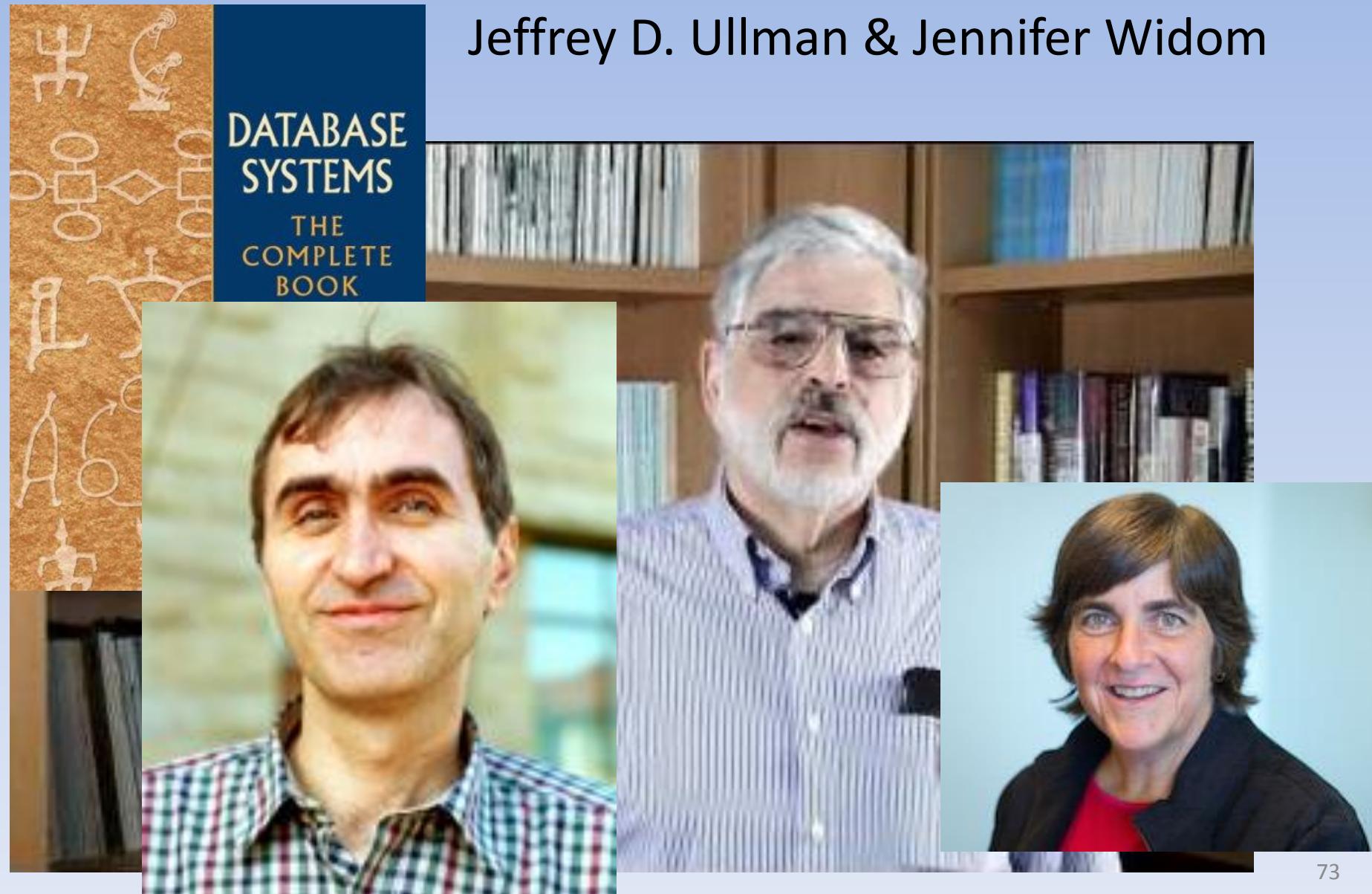
- Build an interesting DB w/ Available Datasets
- Describe the data domain for your database
- Describe the Value of your database
- Describe the Design of your database
- Query some interesting data from your database

Date	Assignment/Examination/Presentation	Points
Various	In-Class Work/Attendance	100
	DB1: https://lagunita.stanford.edu/courses/DB/RDB/SelfPaced/about DB2: https://lagunita.stanford.edu/courses/DB/XML/SelfPaced/about DB3: https://lagunita.stanford.edu/courses/DB/JSON/SelfPaced/about DB4: https://lagunita.stanford.edu/courses/DB/RA/SelfPaced/about DB5: https://lagunita.stanford.edu/courses/DB/SQL/SelfPaced/about DB6: https://lagunita.stanford.edu/courses/DB/XPath/SelfPaced/about DB7: https://lagunita.stanford.edu/courses/DB/XSLT/SelfPaced/about	50
	Presentation 1: Class Intro/DB Topic	50
	Midterm	200
	DB8: https://lagunita.stanford.edu/courses/DB/RD/SelfPaced/about DB9: https://lagunita.stanford.edu/courses/DB/UML/SelfPaced/about DB10: https://lagunita.stanford.edu/courses/DB/Indexes/SelfPaced/about DB11: https://lagunita.stanford.edu/courses/DB/Constraints/SelfPaced/about DB12: https://lagunita.stanford.edu/courses/DB/Views/SelfPaced/about DB13: https://lagunita.stanford.edu/courses/DB/OLAP/SelfPaced/about DB14: https://lagunita.stanford.edu/courses/DB/Recursion/SelfPaced/about	50
	Presentation 2: Advanced Database Topic	50
	Assignment: Project Database/Presentation	200
	Final	300

Database Systems: The Complete Book(2nd)

by Hector Garcia-Molina,

Jeffrey D. Ullman & Jennifer Widom



Chapter 1

DATA

- Databases, Big Data, Data Mining, Data Science
- What's all this about DATA???

Introduction and Relational Databases

REGISTER FOR DB1

EXPLORE COURSE *



GitHub/Git/Python 2.7

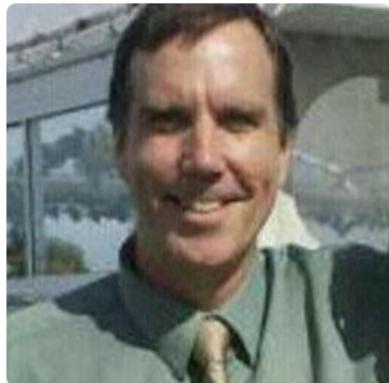
- Introduce GitHub/Git/Python

GitHub/Git/Python 2.7

<https://github.com/everestso>

Search GitHub

Pull requests Issues Gist

 Contributions Repositories Public activity Edit profile

Popular repositories

- c040f15 Introducing Coding w/ C++ 0 ★
- ics1293 Information & Computer Science -- Notes 0 ★

Contributions

Summary of Pull Requests, issues opened, and commits. [Learn more](#).

Less More

Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
M											
W											
F											

Contributions in the last year **174 total** Jul 1, 2014 – Jul 1, 2015

Longest streak **11 days** May 26 – June 5

Current streak **4 days** June 28 – July 1

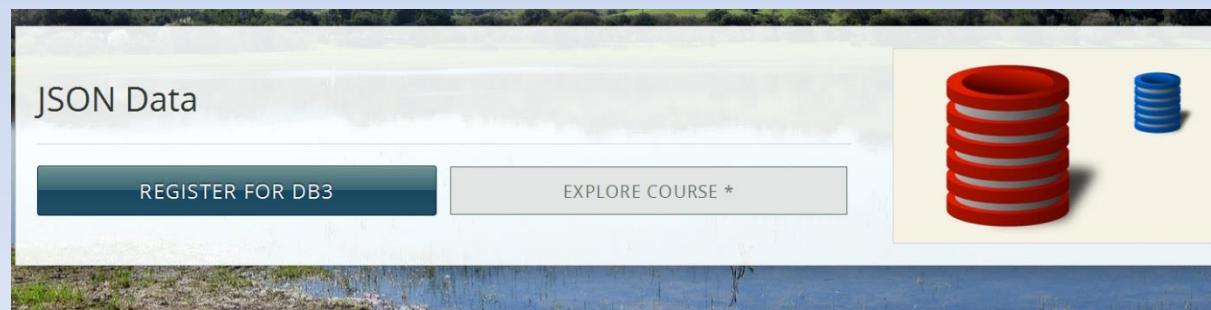
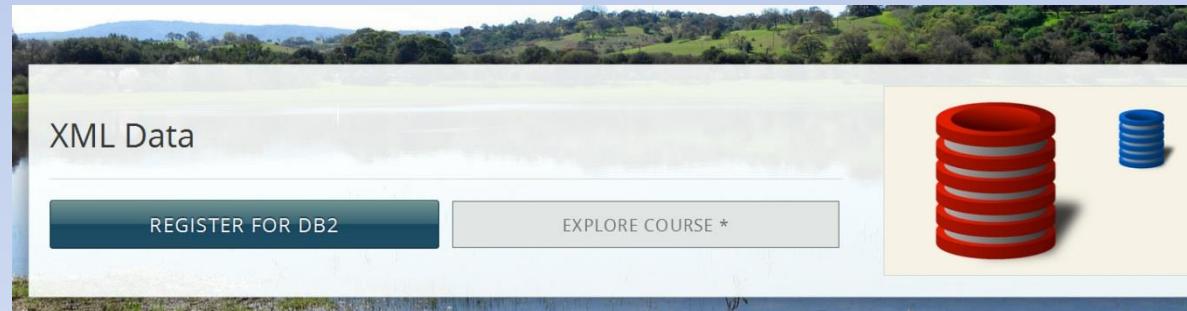
41 Followers **27** Starred **0** Following

 Fresno, California
 <http://www.linkedin.com/in/oc...>
 Joined on May 10, 2013

Chapter 11:

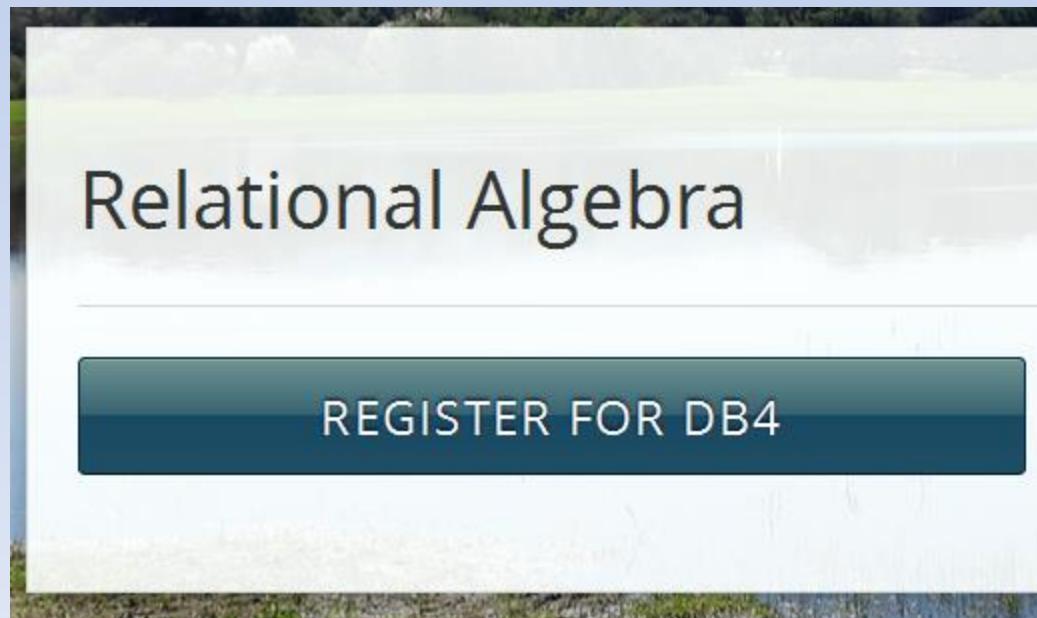
Semistructure Data

- XML
 - Well-Formed
 - DTD/XML Schema
- JSON
 - JSON Schema



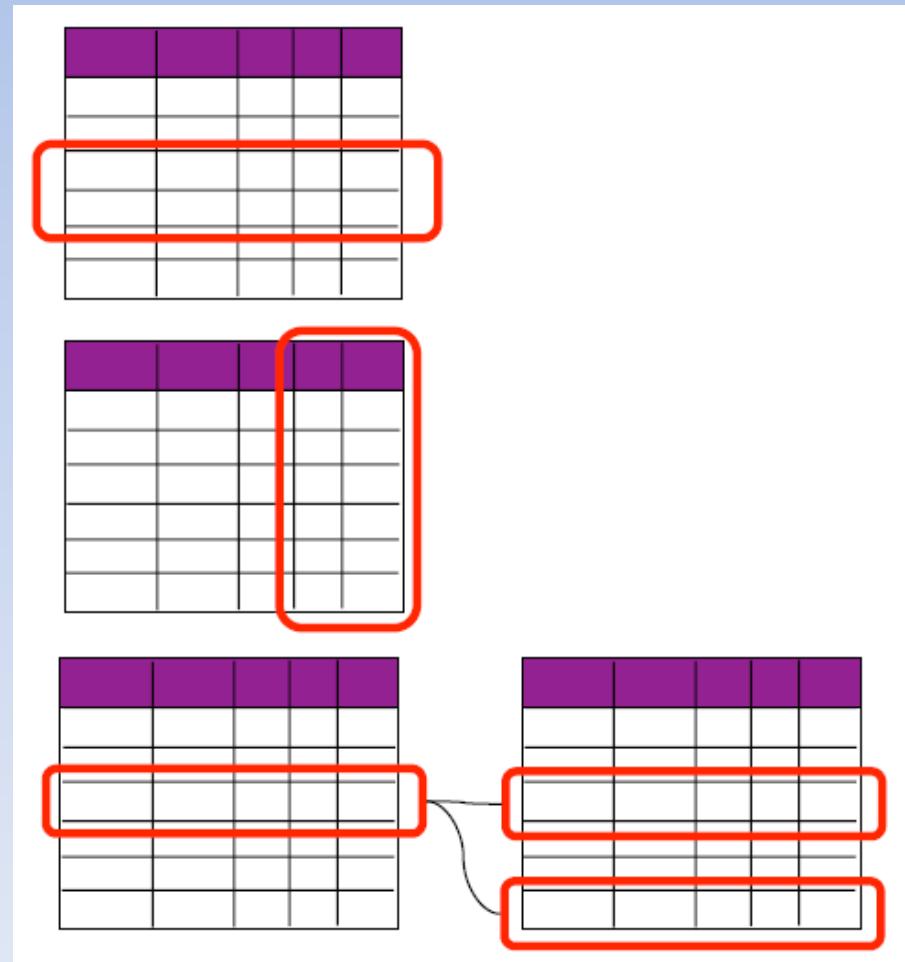
Chapter 2: Relational Data Model

- Data Models
- Relational Data Model
- Relational Algebra



Chapter 2: Relational Data Model

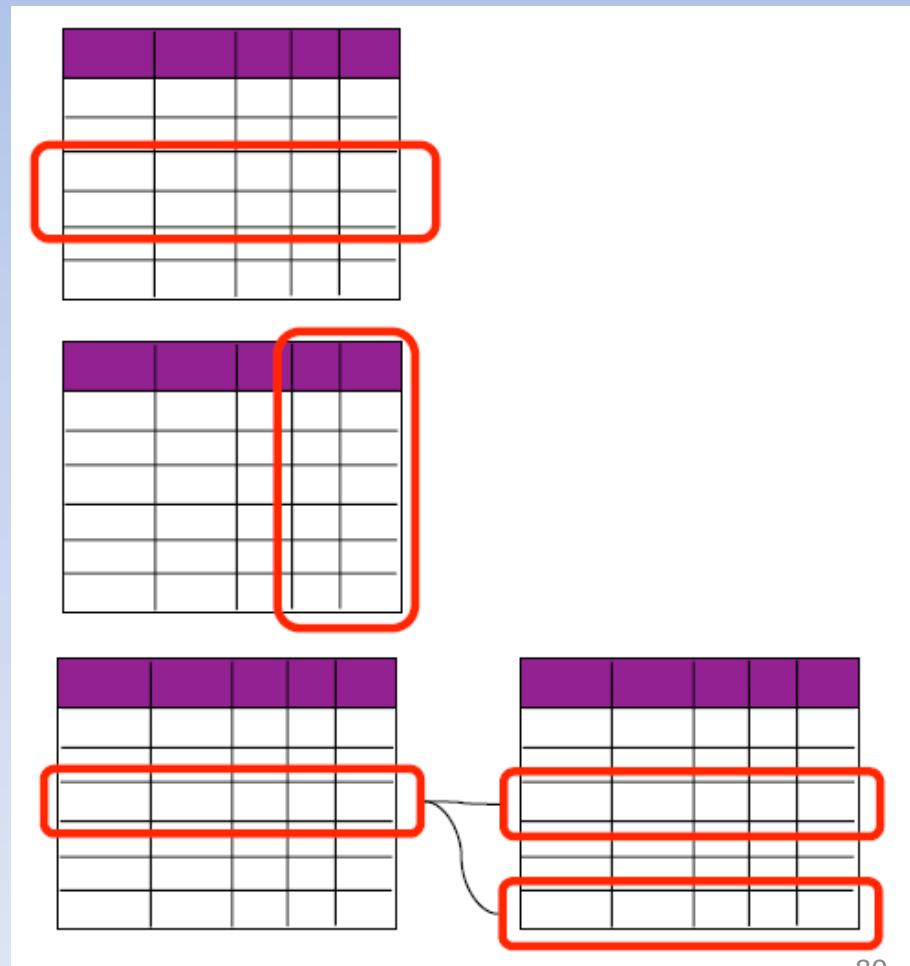
- Language of Relational Algebra



Chapter 6:

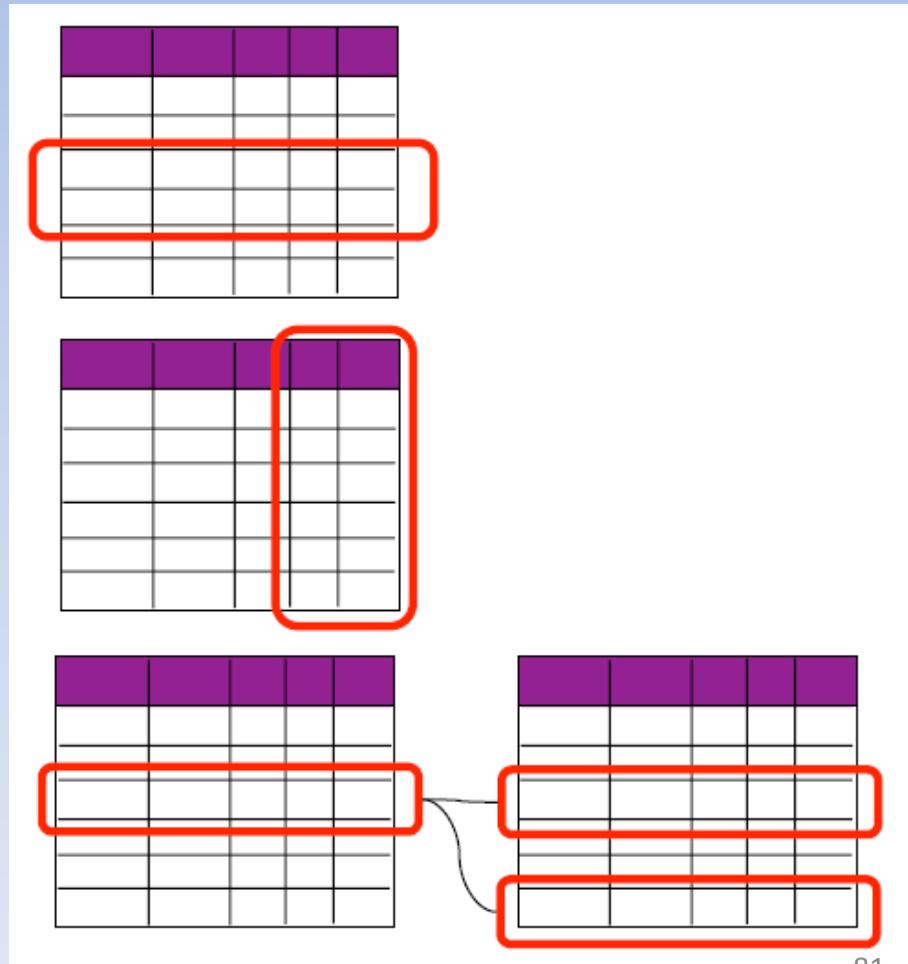
SQL & Relational Algebra

- SELECT * FROM table



Chapter 5:

- Advanced RA/Datalog



Chapter 6:

More SQL

- `SELECT attribute1, sum(attribute2)
FROM table
GROUP BY attribute1;`

MySQL

MySQL Workbench

SQL Editor (cs126) ×

File Edit View Query Database Plugins Scripting Help

Object Browser

SCHEMAS

Search objects

- ass2
- assgn1
- assignment2
- bank
- computers
- cs126a
- houesdb
- iris2d
- movies**
- music
- quizzes
- ratest
- sakila
- ships
- test
- world

SQL File 1 movies ×

```
14 • LOAD DATA
15 LOCAL INFILE 'D:/Documents/GitHub/CSci226.Fall13/assignments/movie_ratings/movie_list.1.csv'
16 INTO TABLE movie_list
17 FIELDS TERMINATED BY ']';

18
19
20
21 • delete from movie_list;
22 • select * from movie_list limit 100;
23
24 • select * from movie_list where mname like "%Avengers%";
25 • select * from movie_list where mname like "%Batman%";
26 • select * from movie_list where mname like "%Cat%";
27 • select * from movie_list where mname like "%Jungle%";
28
29 • select * from movie_list where mname like "Alice in Wonderland_" or
      mname like "%Batman%"

31
```

Filter: []

Edit: []

File: []

Autosize: []

mid	myear	mname
29	1995	Batman Forever
231	1992	Batman Returns
254	1997	Batman & Robin
403	1989	Batman
420	1951	Alice in Wonderland
*	NULL	NULL NULL

Information

No object selected

movie_list 1

Output

Action Output

Time	Action	Message
1 15:29:41	use movies	0 row(s) affected
2 15:29:47	select * from movie_list where mname like "Alice in Wonderland_" or mname like "%Batman%"	5 row(s) returned

Chapter 12:

Querying

Semistructured Data

- Xpath/Xquery

```
] import urllib2
from lxml import etree, html

url='http://www.fresnostate.edu/artshum/cogsci/faculty.html'
response = urllib2.urlopen(url)
print response.info()
htmlData = response.read()
response.close() # best practice to close the file

print "\nPage Data"
document_root = html.fromstring(htmlData)
print(etree.tostring(document_root, encoding='unicode', pretty_print=True))
```

X-Varnish: 5208330
Vary: Accept-Encoding
Cache-Control: max-age=120
Content-Type: text/html; charset=UTF-8
Date: Fri, 30 Jun 2017 23:10:59 GMT
Expires: Fri, 30 Jun 2017 23:12:59 GMT
Transfer-Encoding: chunked
Accept-Ranges: bytes
Connection: close
Age: 0

Page Data

```
<html lang="en" class=""><!--<![endif]-->
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8"/>
        <meta charset="UTF-8"/>
        <meta name="viewport" content="width=device-width, maximum-scale=3, minimum-scale=1"/>
        <meta name="format-detection" content="telephone=no"/>
        <title>Faculty</title>
```

```
: for out in document_root.xpath("//h2/text()"):
    print out
```

College of Arts & Humanities

Brian Agbayani

PedrDr. Pedro Amaral

Don Freed

Sean Fulop

Chris Golston

Lorin Lachs

Walter Read

Matthew Sharps

Former / Past Instructors

Disciplines

```
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Theory, Computational Neuroscience, Neural Modeling, Cognitive Science,
        Logic
        </p>
```

Class Introductions/ Research Ideas

- Share a little about yourself.
- Share some Research Interests through a single research paper.
- Share an idea for a personal database project.

Chapter 20

Distributed Databases

- Database Models using Parallel Computing
- Map-Reduce Programming Model
- NoSQL

MIDTERM

- Chapter 1: Introduction to Databases
- Chapter 11: Semistructured Data
- Chapter 2: Relational Data Models
- Chapter 2, 5: Relational Algebra/Datalog
- Chapter 6: SQL
- Chapter 12: Querying Semistructured Data
- Chapter 20: Distributed Databases

Chapter 23

Database & Internet

- Internet Searches w/ Page Rank

Chapter 3:

Design Theory

for Relation Databases

Project Proposals

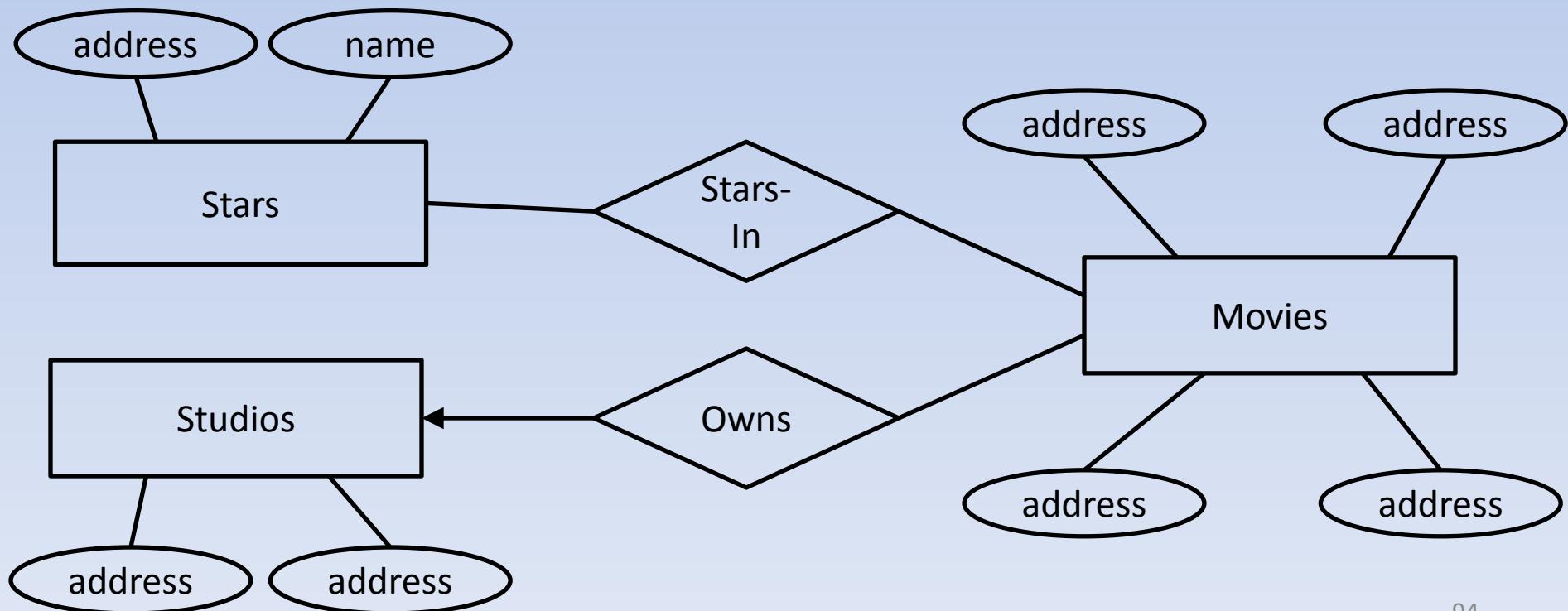
- Share idea for your personal database project.

Chapter 6, 17, 18: Transactions

- Transactions

Chapter 4:

Database Design w/ E/R & UML Diagrams



Chapter 7: Constraints/Triggers

- Constraints/Triggers

Chapter 8: **Index/Views**

- Index/Views

Database Implementations

- 13

Database Implementations

- 15 Query Execution
- 16 Query Compiler

Chapter 9: **Stored Procedures**

- Stored Procedures

Chapter 10: **Advanced Topics/Authoring**

- Users w/ MySQL

Machine Learning/ Data Mining

- Supervised/Unsupervised Learning
- Validating Data Mining Results

Final Presentations

Final

Next Time

- <https://class.stanford.edu/>
- Register w/ Stanford Online
- Take a look at DB1
- The next set is DB2 (XML), DB3 (JSON)