

# CS324e - Elements of Graphics and Visualization

Class Intro

[www.cs.utexas.edu/~scottm/cs324e/index.htm](http://www.cs.utexas.edu/~scottm/cs324e/index.htm)

# Teaching Staff

- Mike Scott
  - Lecturer (not a professor, no PhD, so "Mike" please)
  - At UT since 2000
  - [scottm@cs.utexas.edu](mailto:scottm@cs.utexas.edu)
  - lab hours MW 3 - 4:30 5<sup>th</sup> floor PAI lab
  - also F 12 - 4 in PAI 5.68, but priority for CS378 students
  - and by appointment
- TA: Sarah Abraham
  - lab hours TBD

# Prereqs

- CS307, CS314, CS313e, EE422c, or EE322c with C- or better
- ability to design and implement medium sized program with some complexity in the algorithms required
- work load is significant

# Survey

- Survey on Java and object-based programming experience

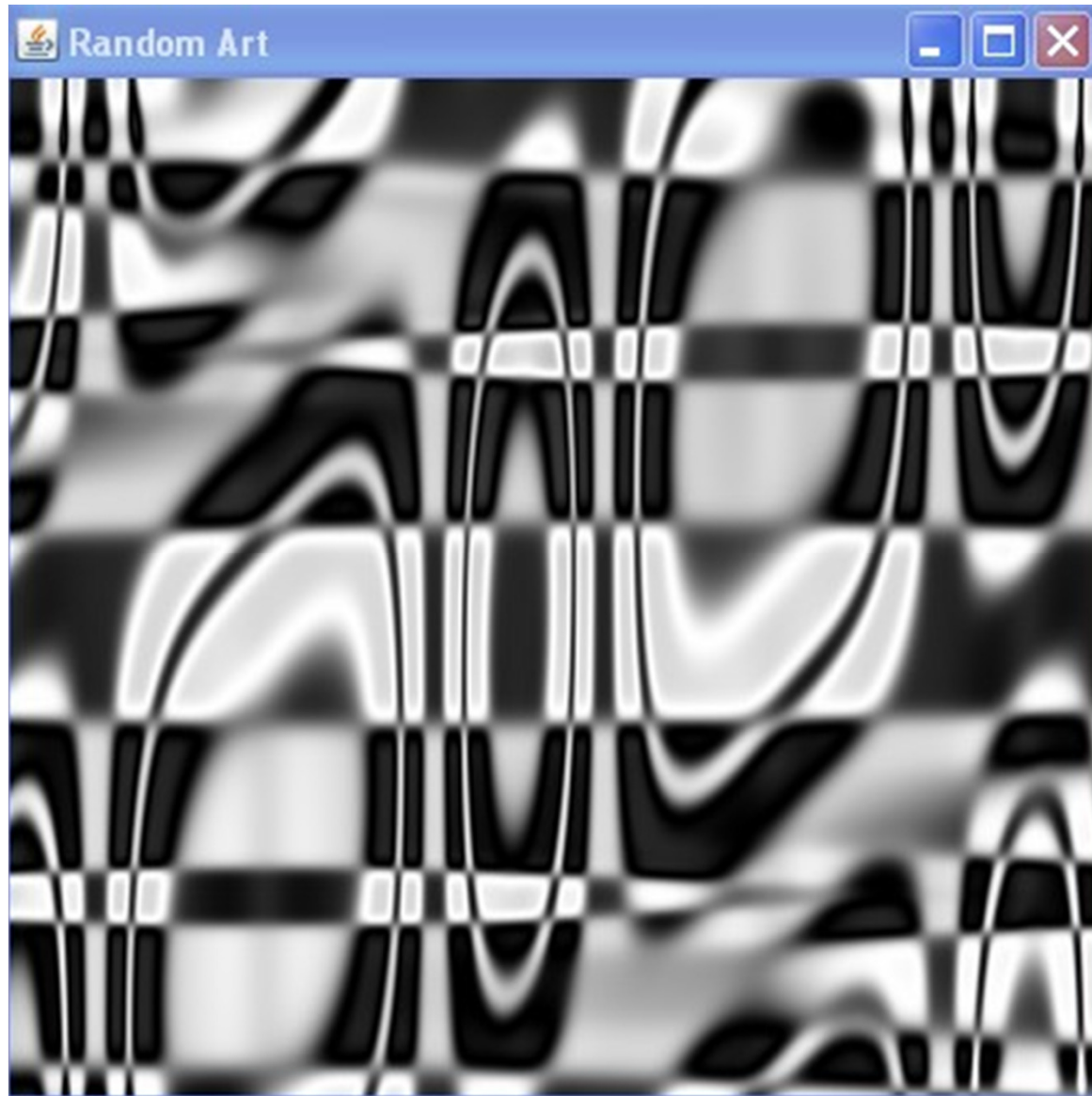
# Course Content

## Graphics and Visualization

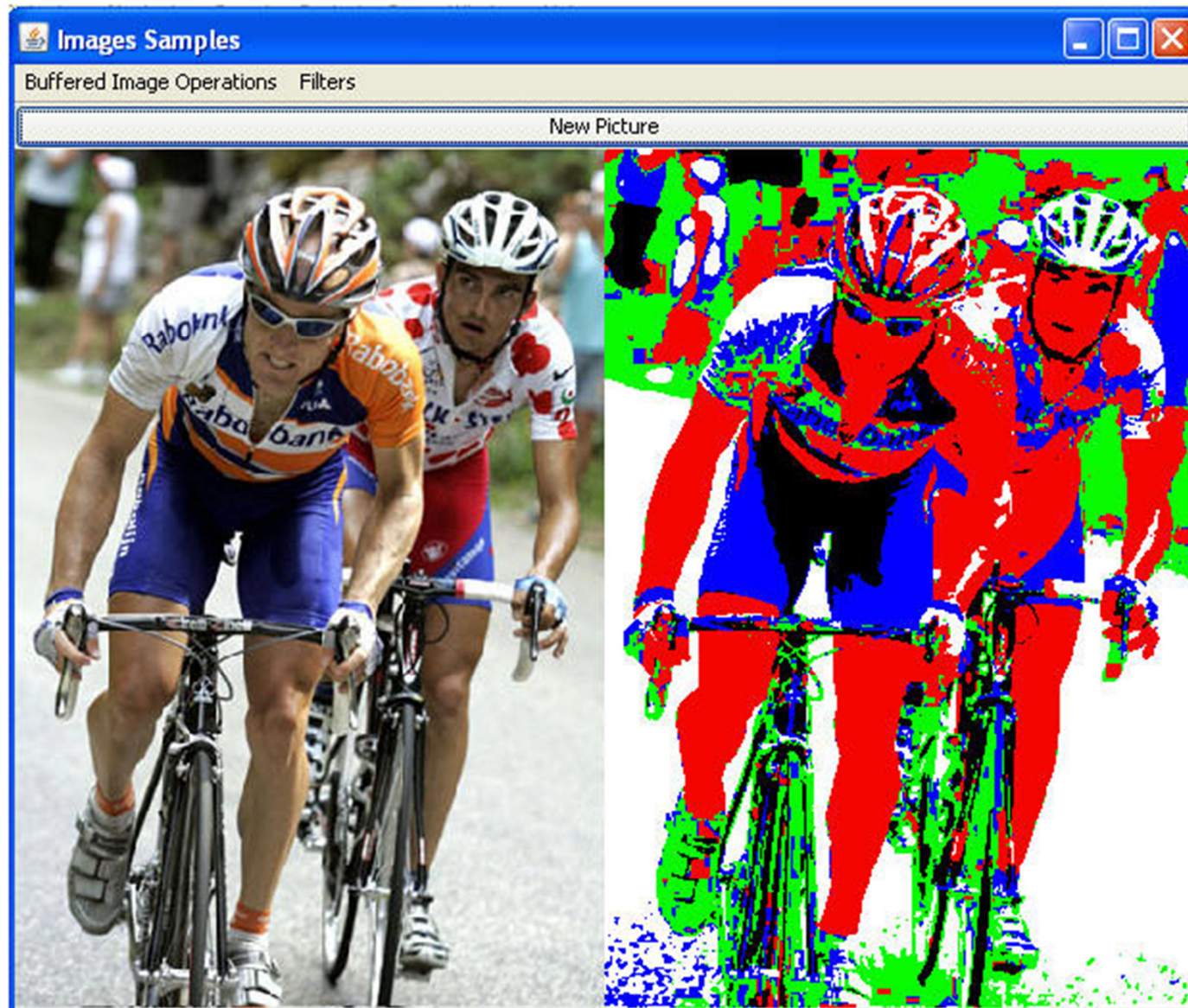
### Heat Map

DOW 30 Heatmap									
+0.98%	+0.77%	+0.72%	+0.62%	+0.51%	+0.50%	+0.42%	+0.40%	+0.38%	+0.38%
8.27	56.755	93.29	41.365	65.56	49.89	43.07	73.56	36.7299	79.57
BAC	HD	MMM	KFT	TRV	DIS	VZ	BA	T	UTX
+0.28%	+0.19%	+0.14%	+0.12%	+0.05%	+0.04%	-0.10%	-0.13%	-0.14%	-0.21%
71.63	56.71	43.00	67.86	88.56	66.80	20.83	50.3322	87.34	23.6399
WMT	AXP	MRK	JNJ	MCD	PG	GE	DD	XOM	PFE
-0.25%	-0.27%	-0.33%	-0.36%	-0.39%	-0.52%	-0.71%	-0.96%	-1.35%	-2.06%
111.70	37.9365	198.00	8.788	30.68	19.06	38.98	25.86	89.07	19.519
CVX	JPM	IBM	AA	MSFT	CSCO	KO	INTC	CAT	HPQ

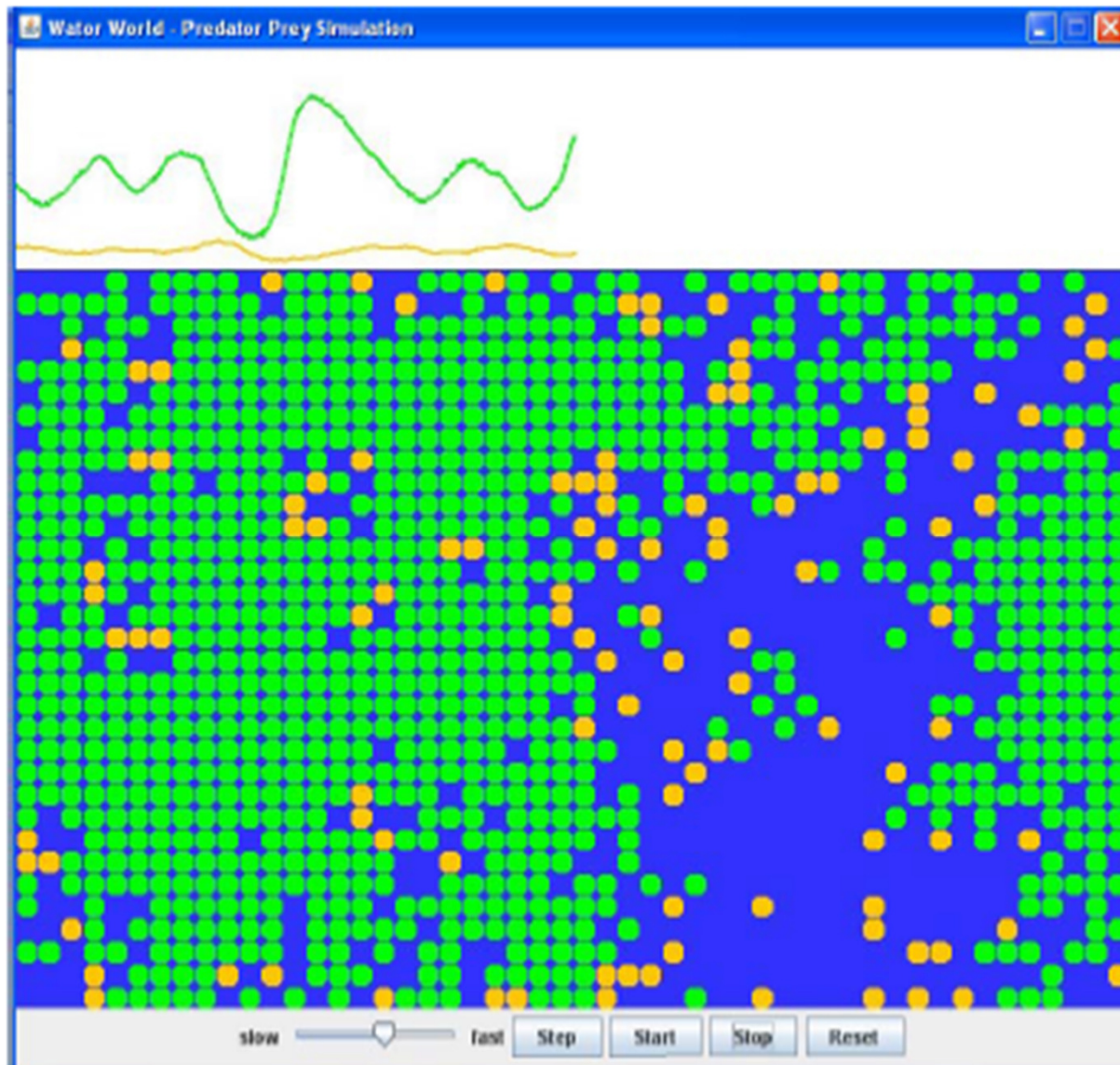
# Random Art



# Image Manipulation

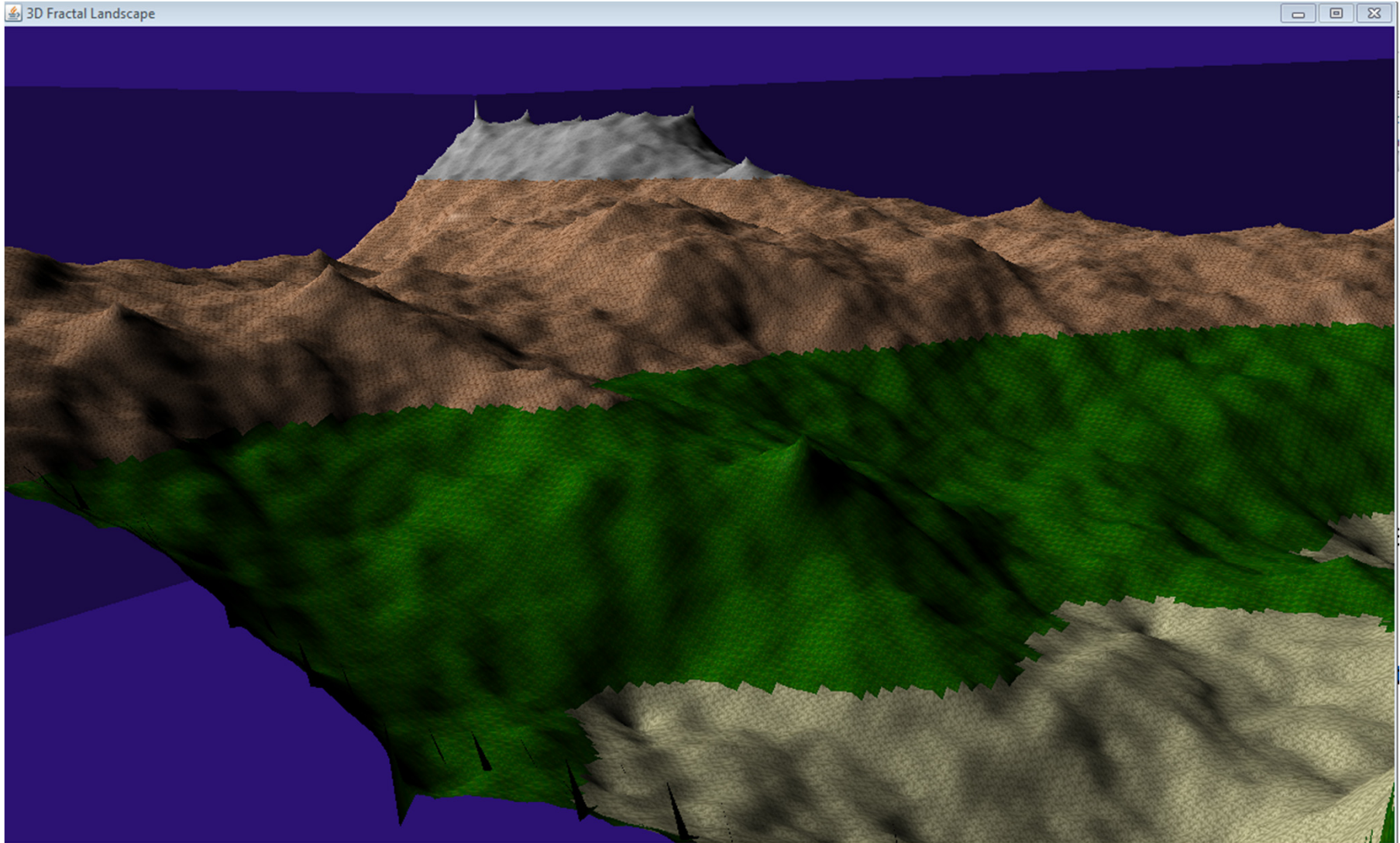


# Simulation and Visualization WaterWorld





# Fractal 3D Landscape



# Course Content

- Focus on using existing libraries to create programs that use Graphics.
  - not as much detail on graphics algorithms
  - call `drawLine(int x1, int y1, int x2, int y2)` instead of implementing [Bresenham's line drawing algorithm](#)
- Java review / tutorial, GUIs, Color, 2D graphics, Image filtering, animation, 3D graphics

# Other Courses

- RTF 319 - Introduction to Digital Media using graphics tools such Illustrator, Photoshop, Flash, etc.
- CS 354 - Computer Graphics, more in depth and theoretical
- ART 304L - Digital Foundations
- CS324e part of Bridging Disciplines Arts and Digital Media Program  
<http://www.utexas.edu/ugs/bdp/programs/dam>

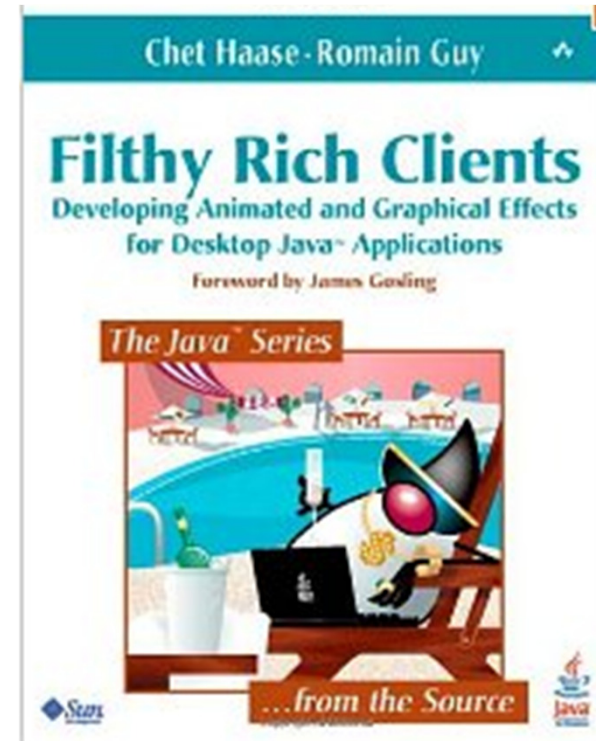
and Elements of CS Program

# Programming Language

- Programming language is Java
- Survey today on familiarity with Java and object based programming
- First 3 class periods will be Java intro / review
- First major assignment (A1) just Java, no graphics
  - not trivial

# Book

- *Filthy Rich Clients - Developing Animated and Graphical Effects for Desktop Java Applications* by Chet Hause and Romain Guy, ISBN 978-0-13-241393-0
- Readings supplemented with material from the web



# Grading

- Midterm 10/17 during class, 100 points
- Final 12/12, 2 - 5 pm, 300 points
  - both exams open book, open note
- Assignments: 9 programming assignments
  - point value varies 25 - 125
  - some individual, some pair
  - electronic turn in by 11 pm
  - "This is the first class I have had where I wish the tests were worth more and the homework / projects were worth less"
- A: 925 - 1000, A- 900 - 924, B+ 875 - 899, B 825 - 874, B- 800 - 824 and so forth ...

# Assignments

- In Java
- 6 slip days, no more than 2 on one assignment
- CS department account required for turnin, even if you work on your own machine
- If you had account last semester should renew
- check turnin to see if active:
- [turnin.microlab.cs.utexas.edu/turnin/webturnin.dll/login](https://turnin.microlab.cs.utexas.edu/turnin/webturnin.dll/login)

# Class Resources

- Web page (assignments, schedule, links to reading, code samples)
- Class discussion group on Piazza
- Grades on Canvas
- Microlab (machines with required software and help from me and the TA)



Questions ??????