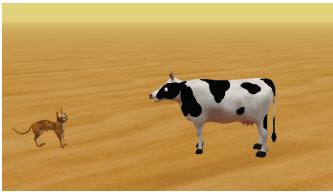


CompSci 94

Introduction to Programming

Animation and Virtual Worlds

August 27, 2024



Prof. Susan Rodger

Class Today

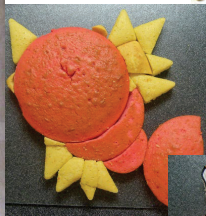
- Go over syllabus, web page
- Introduce computer science and Alice
- Demos of Alice
 - Simple world/sample Alice worlds
- Classwork – Get to know each other
- Course website:

www.cs.duke.edu/courses/fall24/compsci94

About Prof. Rodger



How do you keep
your sanity?



TA/UTA introductions

- Graduate TA: Jiasheng Wang
- Undergraduate TAs:
 - Caroline Dolan Gilman
 - Linnea Kuruvilla
 - Abby Melton
 - Charley Nasiedlak



Course Web page

www.cs.duke.edu/courses/fall24/compsci94



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What is Computer Science?

- Computer science is no more about computers than astronomy is about telescopes. - Edsger Dijkstra



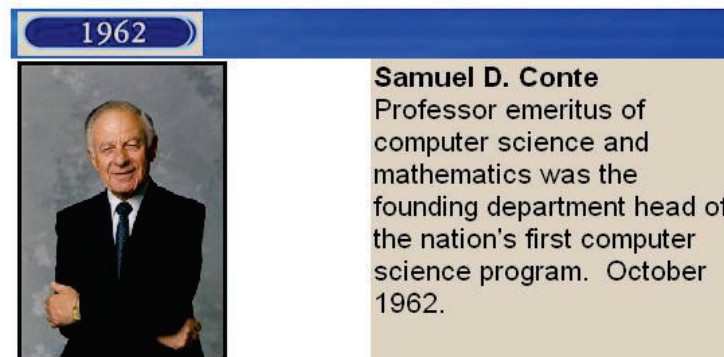
- Computer science is not as old as physics; it lags by a couple hundred years. However, this does not mean that there is significantly less on the computer scientist's plate than on the physicist's: younger it may be, but it has had a far more intense upbringing! - Richard Feynman



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Computer Science is a young discipline

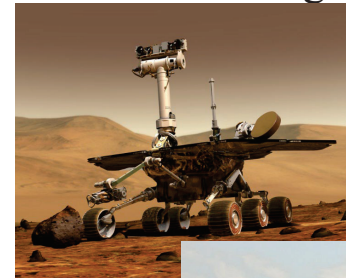
- First computer science department formed in 1962



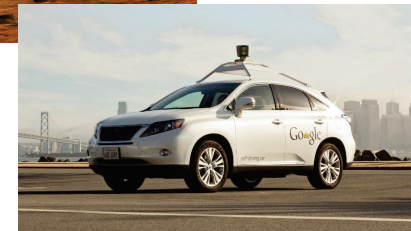
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What is Computer Science?

- Artificial Intelligence



Spirit, Mars Rover



Self-driving car



Roomba

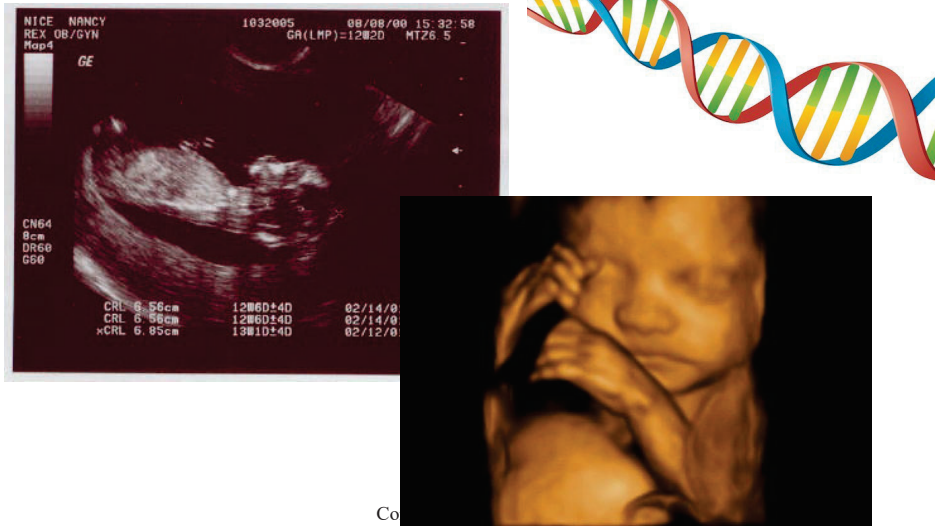


Personal Robot

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What is Computer Science?

- Medicine, Genomics



Co

What is Computer Science?

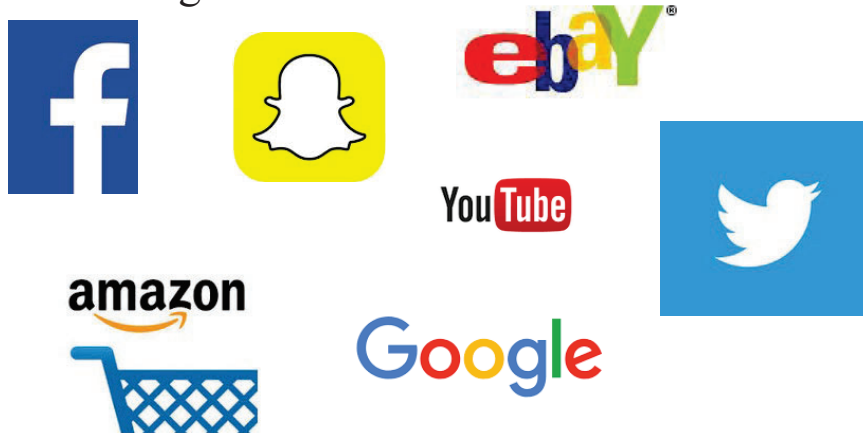
- Animation



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What is Computer Science?

- The Organization of Data, Sharing, and Searching



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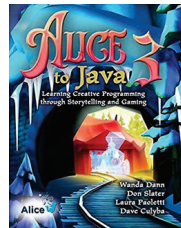
Computer Science and Programming

- Computer Science is more than programming
 - Called *Informatics* in many countries
 - Elements of both science and engineering
 - Elements of math, physics, cognitive science, music, art, and many other fields
- To some programming is an art, to others a science, to others an engineering discipline.

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What Will We Do in CompSci 94?

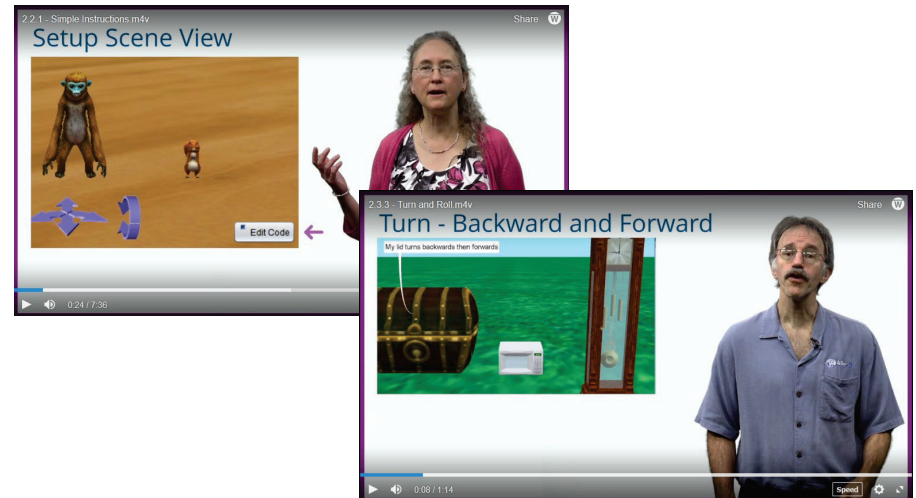
- Alice 3 programming
- Logistics – bring to lecture
 - laptop/computer
 - **optional** Textbook
 - Instead: Free videos
- **THIS IS A CLASS WITH PARTICIPATION**
- You will write a program everyday!



Optional

Videos – Watch and take online quiz (on Sakai) before class

Prof. Susan Rodger/Prof. Steve Cooper



How CompSci 94 Will Work

- In Class
 - Lecture/demos/review – short
 - Full Lecture slides posted later
 - Classwork
 - REQUIRED ATTENDANCE
 - Checkoff Classwork
- Outside of class
 - Complete work not finished in class
 - Watch Videos – before class
 - Online Quizzes – before class
 - Assignments

You participate

Fill in missing parts

First one Thursday

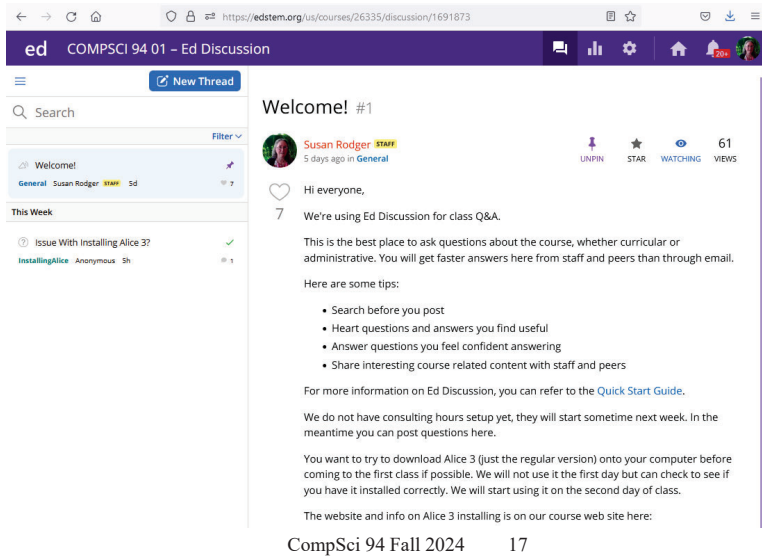
Show us your program

Take before class!

How CompSci 94 Will Work

- In Class
 - Lecture/demos/review – short
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 - Assignments

Don't Send email, use Ed Discussion to ask questions!



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What Is Alice?



- A modern programming tool
 - 3-D graphics
 - 3-D models of objects
- Animation
 - Objects can be made to move around virtual world (a simulation or video game)

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What does Alice run on?

- Alice is written in Java – should run on many systems
 - supports Mac and PC
- Which version of Alice are we using?
 - Alice 3 (NOT netbeans version, NOT beta)
 - Alice.org, see the CompSci 94 resources page
 - Version 3.11
 - Note: Alice 3 is quite a bit different from Alice version 2

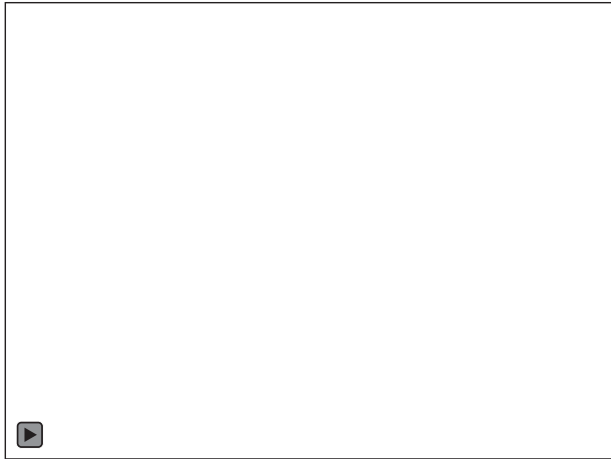
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Example from Alice 2



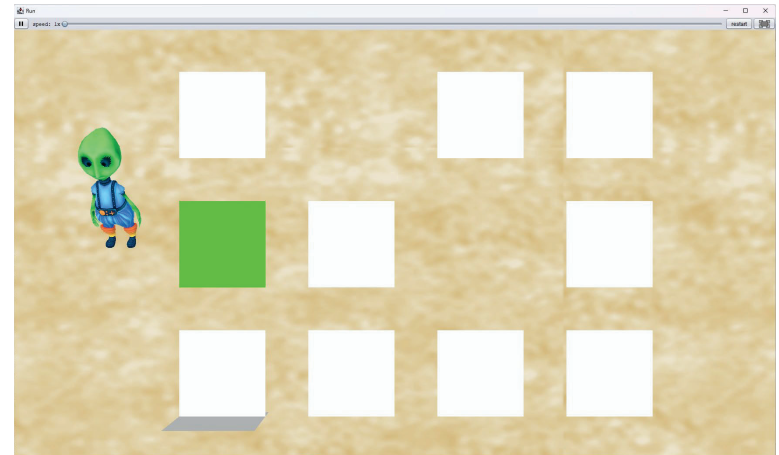
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Example from Alice 2



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Sample Project Alice 3



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Another Sample Project Alice 3



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Who are you?
<https://bit.ly/cps94f24-01>

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The Power of Alice

- Automatically keeps track of 3-D objects
 - What objects are in the virtual world
 - Types of objects
 - Positions of objects in the world

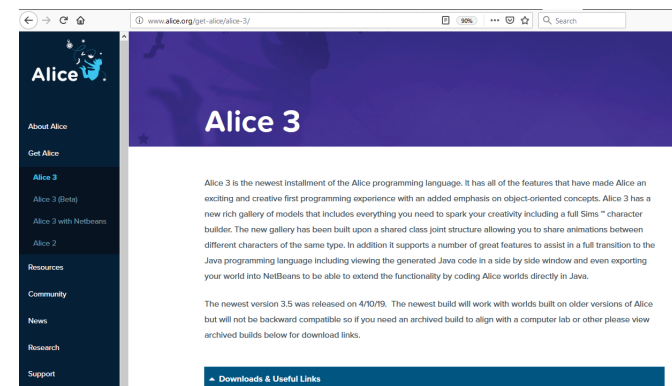
Code



Alice Demo



Download Alice 3 from alice.org,
instructions CompSci 94 webpage,
NOT Alice 2! NOT netbeans, NOT Beta!



For Thursday!

- No Alice classwork today but usually you would finish it
- We can check your Alice 3 install!!!
- Download Alice 3 if you haven't yet
- Assignment 1 out – Due Sept 5
 - This assignment does not use Alice
- Watch videos BEFORE coming to class.
- Take Quiz on Sakai BEFORE class starts