

COMP 141

CS1: Programming Fundamentals
August 23, 2017



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What is Computer Science?

What do you hope to learn in this class?



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What is Computing?

Computing: Word, Excel, etc.

Computing: internet, e-mail,
network...

Computing: Digital Photography

Computing: Entertainment...

Computing: Entertainment...



Cutting Edge Computer Science



Google's Autonomous Car



- Nevada made it legal for autonomous cars to drive on roads in June 2011
- California introduced a similar bill in Aug 2012

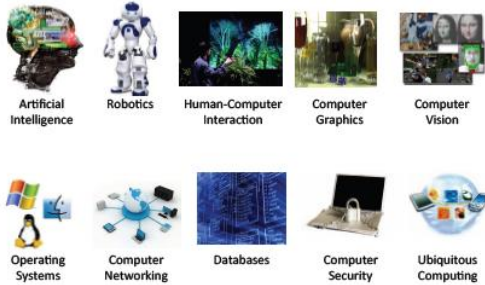
2011 Jeopardy!



- In February 2011, IBM Watson beat Brad Rutter (biggest all-time money winner) and Ken Jennings (longest winning streak)
- IBM is currently applying Watson's technology to medical diagnosis and legal research

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Areas in Computer Science



What is Computer Science?

Computer science is the study of **solving problems** using **computation**.

- Computers are part of it, but the emphasis is on the problem solving aspect.

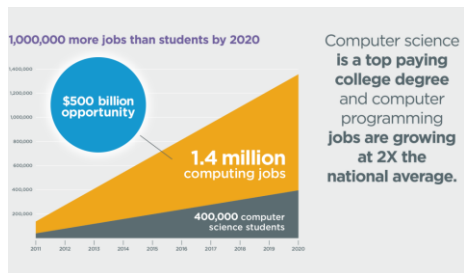
A computer scientist is a **problem-solver**.



Computer Scientists work across disciplines

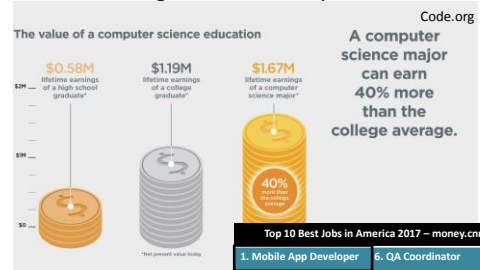
Mathematics	Geoscience	Medicine/Surgery
Biology (bioinformatics)	Archeology	Engineering
Chemistry	Psychology	Linguistics
Physics	Sociology	Art
Geology	Cognitive Science	...

Why Study Computer Science?



<http://code.org/promote>

Computing is Consistently Ranked Among the Best Occupations



CS Careers Rank Highly In:

- Job satisfaction
- Salary
- Work/life balance
- Growth potential
- Employment rate
- Work environment

Top 10 Best Jobs in America 2017 – money.cnn.com

1. Mobile App Developer	6. QA Coordinator
2. Risk Management Director	7. Clinical Applications Specialist
3. Landman	8. Hospital Administrator
4. Product Analyst	9. Database Analyst
5. Info Assurance Analyst	10. Director, Finance & Administration

Why Study CS at Rhodes?

"Everyone should learn how to program a computer, because it teaches you how to think. I view computer science as a liberal art, something everyone should learn to do." -Steve Jobs

- Liberal arts background is great!
- Employers want to see:
 - Communication skills (written & verbal)
 - Strong work ethic
 - Teamwork skills (works well with others)
 - Initiative
 - Interpersonal skills (relates well to others)
 - Problem-solving skills



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Things to Remember

1. Computers are dumb!
2. Computers only do what you tell them to do.
3. Computer do what you tell them to do really fast, so they appear smart (but they are not).
4. Computer don't remember anything unless you tell them how to remember.
5. Computers take your instructions literally. If you tell them to do something dumb, they do it.
6. A computer only does what it is told and in exactly the order you tell it.



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Syllabus

- http://cs.rhodes.edu/welshc/COMP141_F17/syllabus.pdf



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Fun Activity

- Go to **Start -> All Programs -> Python 3.5**.
- Open **IDLE (Python 3.5 32-bit)**
- Type the following (use the exact capitalization as shown):


```
>>> import turtle
>>> turtle
>>> sven = turtle.Turtle()
>>> sven.forward(100)
>>> sven.right(90)
>>> sven.forward(50)
```
- Try other commands
 - forward, backward, right, left
 - sven.color('blue')
 - sven.pensize(3)



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Homework 0

- Tell me about yourself.
 - Fill out the “Getting to Know You” worksheet
- Make sure you have this class in your course list on Moodle.
- Due Friday, 8/25 at beginning of class