

CSCI08H: Introduction to Computer Programming

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L0101: MWF 10am
L5101: Th 6-9pm

Today

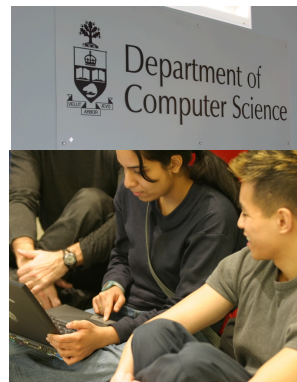
- Learn what CSCI08H is about.
- Compare it to an alternative: CSCI48H.
- Get our feet wet with a first program.

- Admin details: on Wednesday.

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This Course


- Teaches the basics of programming in Python
- Is intended for students with no programming experience
- 3 lecture hours per week
- 2-hour lab each week



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What's CSCI08 About?

At the end of this course, you will

- know most  python™ instructions
- be able to take human problems and write Python programs that solve them
- have a sense of what computer scientists do
- have an appreciation for how computer science research applies to fields such as medical science, astronomy, physics, and bioinformatics

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An alternative to CSC108H

CSC148H

Instructors: Gries, Pandeli



- Assumes basic Python and object-oriented programming. (Classes, objects, strings, lists, sorting)
- Suitable for those with the equivalent of CSC108H.
- Teaches *more* object-oriented concepts, plus data structures
- 2 lecture hours/week + 2-hour lab

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Administrative stuff

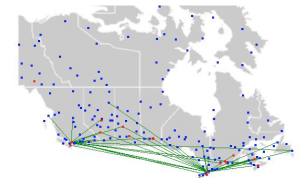
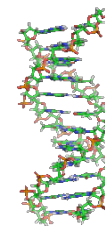
- The Course Info Sheet has all the key administrative details.
- The course website is at:
<http://www.cdf.toronto.edu/~csc108h/fall/>
- We'll go over all this on Wed, but you probably want to know about the coursework ...

Coursework Overview

Work	Weight	Comment
Labs	5%	0.5% each
Exercises	6%	2% each
Assignments (3)	29%	A1: 9%, A2: 10%, A3 10%
Tests (2)	20%	In lecture timeslot, 10% each
Final exam	40%	You must get $\geq 40\%$ to pass 108

What Sorts of Problems?

- Remove red-eye from a picture
- Find the complement of a DNA strand
- Display maps with airplane flight paths
- Hide a poem in a picture



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Task: Daytime to Sunset

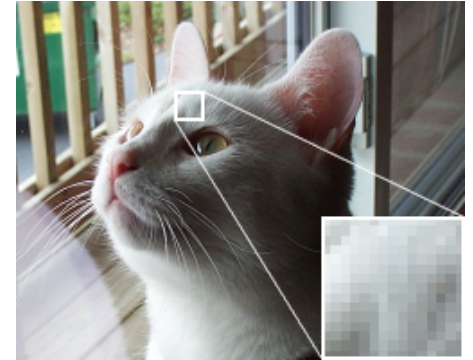


Make a picture taken during the day look like it was taken at sunset.

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Pictures and Pixels

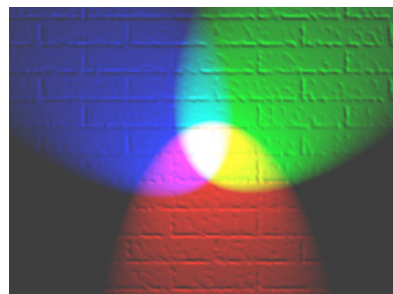
- Digital images are made up of pixels, which are tiny dots.
- That's what 1024 x 768 resolution means: 1024 pixels wide, 768 pixels high
- Pixel (0, 0) is upper left
- Pixel (1023, 0) is upper right
- Pixel (0, 767) is lower left
- Pixel (1023, 767) is lower right



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Colour Representation

- Colours: combinations of red, green, and blue
- Each component has intensity in range 0 - 255
- Red: (255, 0, 0)
- Green: (0, 255, 0)
- Blue: (0, 0, 255)
- White: (255, 255, 255)
- Black: (0, 0, 0)



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To Dos

- Make sure you've registered your UTOR email address on ROSI
- If you haven't done so already, sign up for a tutorial (aka lab) timeslot on ROSI
- If you plan to work on your own computer, install software (instructions on course website)
- Buy textbook and start readings

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