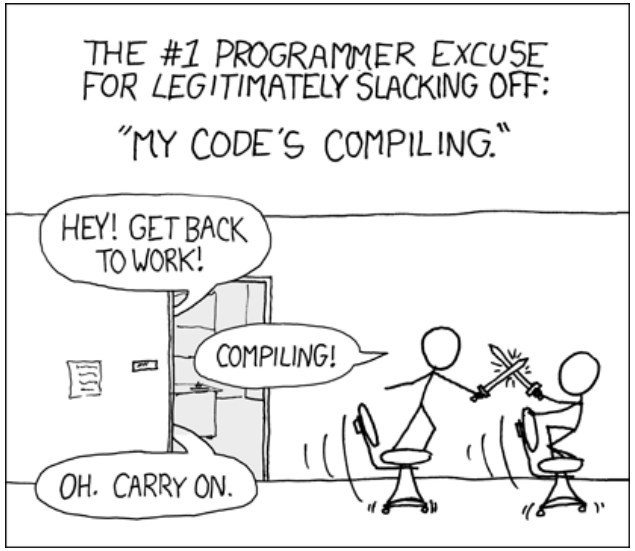
CSC 108: INTRODUCTION TO COMPUTER PROGRAMMING

Fall 2022

The University of Mount Union

How to Program a Computer

- Ask Professor Google and get > 9.3 billion results
- Programming involves different:
  - Languages
  - End goals
  - Levels of expertise
- In this class, we
  - Assume no prior experience
  - Learn by doing lots of examples
  - Have fun!



xkcd.com

What is a computer language?

- "A programming language is an artificial unambiguous language designed to express computations that can be performed by a machine, particularly a computer."

- Artificial?
  - Made up

- Unambiguous?
  - No question about the meaning of the programming statements

- Wait, you're saying spoken language *isn't* unambiguous?
  - The man saw the boy with the binoculars.
  - Time flies like an arrow; fruit flies like a banana.

Exact instructions challenge

- Write detailed, exact instructions so that a classmate could draw your picture
- Don't say what the object is – no title, no reference to it in your instructions!
- After 10 minutes, we'll trade instructions and see how well your classmates do

Our language

- We'll be using **Processing**
- Processing is a programming system that provides a simple program structure in an environment that encourages experimentation and extension
- Write a few statements, then run the program to see the results
- Then add a few more lines…program grows bit by bit

Processing's way of working: the sketch

- Engage in a cycle of writing, testing, and improving
- This facilitates an experimental mindset:
  - If something doesn't work, it's not the end of the world
  - Just dust yourself off (fix it)…and try again!

Downloading Processing on your computer

- Already installed on lab computers (use Computer Science image)
- Software download instructions are given in Chapter 2 of the text for your own computer
- We'll be using Release 3.5.4 as it is the release used in the book

- Download / Processing.org

How this class will work

- Most of the work for this class can be completed during class time
  - Lab activities are to be completed in class and demonstrated to the instructor
  - Programming assignments may need to be completed outside of class time
- We will have some brief lectures, demonstrations, and the like, but much of the class will consist of open lab time
- There will be 6 lab activities, 5 programming assignments, and 6 in-class quizzes
- Final projects will be presented during our final period, **Wednesday, December 14, 1-4 pm**. They will be worth 25 points and will replace the lowest programming assignment or quiz score. More information is forthcoming!

Important Links

- Course website: CSC 108 Home Page
- Course syllabus: syllabus108.pdf
- Computer Science homepage: https://silver.mountunion.edu/cs/ (this link only works on campus or through a VPN connection)
- Online textbook instructions: Accessing O'Reilly Learning Resources
- Processing: Welcome to Processing! / Processing.org