600.120 Intermediate Programming, Spring 2017

Misha Kazhdan
Instructors

• Sara Miner More, more@cs.jhu.edu
  • Section 01: MWF 12-1:15pm
  • Section 03: TuTh 9-10:15am and Th 10:30-11:45am

• Misha Kazhdan, misha@cs.jhu.edu
  • Section 02: MWF 1:30-2:45pm

• Yotam Barnoy, ybarnoy1@jhu.edu
  • Section 04: MWF 3-4:15pm
Plan for today

• Overview
• Distribution of ugrad accounts
• Log into lab computers, then ugrad, and get started in Unix/Linux
Course Goal(s)

• By end of course, you’ll be able to create large, complex, correct programs in C and C++
  • For some students, this comes easily; for others, not so much
  • Differences in background play a large part
  • If you’re struggling, don’t panic! We’re here to help.
  • To become a strong programmer, you need to practice, practice, practice
Programming is More than Coding

- In introductory courses, you learn to write code
- You also spend a good deal of time debugging it
- The larger your program, the more time you’ll spend debugging
  - Code doesn’t compile/run: (e.g. bad syntax, memory leaks, seg. faults, etc.)
    This problem goes away as you get better at coding
  - Code doesn’t give the right result:
    This problem does not go away as you get better at coding
    But depending on how you approach it, this can either be painful or fun.
(Long-Term) Lazy ⇔ Simplicity

• As you write code, think about:
  • Abstraction:
    How hard would it be to generalize the code to solve a more general class of problems?
    ⇒ Fewer assumptions
    ⇒ Easier it is to determine why/where something goes wrong
  • Modularization:
    Are there components of the code that I can use to solve other problems?
    ⇒ More components
    ⇒ Smaller components
    ⇒ Easier to test/validation
Building Skills

- This course is primarily intended to help you build skills
- Building skills takes practice, and meaningful practice takes time
- Please ask for help when you need it!
Course Resources

• Piazza (semester-specific, often section-specific):
  http://piazza.com/jhu/spring2017/600120
  • Please ask questions using Piazza, rather than sending me email
  • Can make posts which are anonymous to other students
  • Can make posts which are targeted to Instructors (includes professors and CAs) only, or just to me
  • Please sign up TODAY; it’s our primary form of communication

• General course website (basic resources):
  http://ugrad.cs.jhu.edu/~cs120

• Blackboard: where you’ll submit homework and receive grades
Grade Calculation

• Homework assignments (some solo, some in teams; some written, some programming) - 50%
• Midterm exam - 10%
• Final project (in teams) - 15%
• Final exam - 15%
• Participation - 10%
Coding and Development

• All your coding will be done on the ugrad machines.
• From your local machine, open a secure shell to a ugrad machine [SSH]:

  >>> ssh <your username>@ugradx.cs.jhu.edu
Coding and Development

- All your coding will be done on the ugrad machines.
- From your local machine, open a secure shell to a ugrad machine [Putty]:
  (You may need to approve a certificate the first time you login.)

You can save your session so you don’t have to enter the full name every time you login.
Unix/Linux

When you login, you will be in your “home” directory.

- **pwd:**
  - prints the name of the current directory
- **ls:**
  - prints the contents of the current directory
- **cd </(sub-)directory name>**:
  - changes the current directory to the specified (sub-)directory
  - **cd ..**: go up one directory
  - **cd /**: go to the root directory
  - **cd ~**: go to the home directory
- **mkdir <directory name>**:
  - create a new directory within the current directory
- **passwd**:
  - change your password