CS 113 – Computer Science I

Lecture 01

Tuesday 09/05/2023
What is Computer Science?
Computer Science in this course

• Break down problems into solvable components

• Learn how to instruct and command a computer to solve a complex problem
Algorithms! = Programs

• Programs: implementation of algorithm that a computer understands
  • Unambiguous
  • Expressive
    • Communicate a lot of ideas
Semester goals/objectives

• Be able to break down a problem into simple steps

• Instruct a computer how to solve those steps in Java

• Debug confidently & independently
  • Trace execution flow (line by line, trace how variables update)
  • Understanding error messages

• Read and understand documentation (java docs)
Workload

• At least 10 hours a week

• Weekly homework assignments:
  • This is where learning happens!

• Weekly labs: prep for homeworks

• Daily reading

• 100-level class != lighter workload
Logistics
• Course webpage:
  • https://BMC-CS-113.github.io

• Gradescope:
  • Submitting assignments

• Piazza:
  • Course communication
  • Useful links will be posted there
Assignments

Learning by doing!

• Homeworks
• Labs
Assesments

• Midterms
  • October 12\textsuperscript{th} (Thursday before Fall break)
  • November 16\textsuperscript{th} (Tuesday before Thanksgiving)
  • flexible grading policy

• Final Exam:
  • Self-scheduled
Course Staff
Prof. Adam Poliak

- 2nd year at BMC,
- spent 2 years at Barnard as Prof
- Taught CS113 in Fall 2022, Spring 2023
- Office Hours: TBD
- Research:
  - Natural Language Processing
  - Computational Text Analysis
  - Data Science
Course staff

• Teaching Assistants:
  • Maha Attique (BMC ‘25)
  • Lily Davoren (BMC ‘25)
  • Juno Bartsch (BMC ‘25)
  • Yiling Hou (BMC ‘26)
  • Kripa Lamichhane (BMC ‘26)
  • Grace Tsai (BMC ‘26) – lab TA
  • Alison Teske (BMC ‘26) – lab TA
Teaching Assistants

• Office hours Park 231:
• Monday – Thursday 7-10 PM EST
• Sunday 7-9pm

• All of them have taken CS 113, and other CS courses
Our job is to help you succeed!
Linux Directory Structure
Folders & Directories

• Computer is structured as a folder-system.
  • Folders (directories) can contain files and other directories

• Organizing programs in directories

• special directories:
  • .. (double dot) - parent directory
Navigating Linux Directory

Terminal commands

- List files
  - `ls`
- Move directories
  - `cd`
- Print the path to working directory
  - `pwd`
- Make a directory
  - `mkdir`
A simple java program

1 // A java program to print a message
2 public class HelloWorld {
3
4     public static void main(String[] args) {
5         // Prints out message to standard output
6         System.out.println("Hello World!");
7     }
8 }
9
Compiling

• Converting java file (.java) to a file that the computer understands (.class, this is called a binary file)

javac filename.java

• Compiler is your friend, will tell you when there are errors
Running

java filename

• Don’t include the *.class
What are the errors here?

```java
class SyntaxErrors {
    public static void main(String args) {
        System.out.println("Hello World");
    }
}
```
Before next lecture

• Read chapter 01

• Complete Lab00:
  • Set up linux account on the CS lab machines
  • Learn how to use the command line
  • Create folder structure on the CS lab machines

• Sign up on:
  • Piazza
  • Gradescope

• HW00 due Monday night (09/11)