
Welcome to CS180!





CS180 L01

Thursdays, 3:30 - 5:20 pm

HAAS G056

Professor: Dr. Dunsmore

Course Coordinators: Andrew Groenewold, Logan Kulinski, Jonathan Grider

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CS180 L01

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The Basics

- Do NOT email TAs, professors, or the course coordinators for issues on assignments.
 - Use Campuswire for help on assignments or to ask course-related questions.
- If you have questions about your grades, please email Drew.
 - drew@cs.purdue.edu
- In order to receive credit for labs, you must be in attendance.



The Basics

- See the [Course Wiki](#) for the most up-to-date information regarding the course.
 - Any changes will be announced on Campuswire.
- If you have any questions while in lab, please let us know.
 - Help us help you!



CS180 Lab 00

Introduction to UNIX and Java

Week 1
Jan. 6 - Jan. 12



What is UNIX?

- UNIX is an operating system (like Windows, macOS, etc.) created in the 1960s by Bell Labs.
- Before high-resolution screens and better graphics, a user would interact with a computer only using one's keyboard.
 - This is known as a command-line interface, which is controlled by a terminal.
 - While it can be daunting at first, once you get the hang of it, using the terminal can often be faster than doing things with your mouse.



Purdue CS lab computers

- Each one of you should have access to the CS lab computers throughout LWSN and HAAS.
 - You have ~3 GB of storage for your files, so please only store course materials on your account.
- You can customize your settings and files as you see fit, and they will “roam” with you as you use different machines.
- You can also remotely access your files on your personal computer (see Coursewire or my webpage).



Using the terminal

- To open the terminal, go to the menu up top and select
 - Applications >> System Tools >> MATE Terminal
 - Alternatively, use CTRL + ALT + T to open a new terminal window
- While you can sometimes use your mouse to select text, you will almost always interact with the terminal using only the keyboard.
- When you type into the terminal, you are typing a command for the computer to execute.
 - Pressing ENTER will finalize the command and tell the computer to execute it.



Useful commands

- **pwd**
 - “Print working directory”
 - Shows the current directory (folder)
- **ls**
 - “List”
 - Lists the files and directories in the specified directory
 - Ex: `ls cs180`, `ls .` (or `ls`)
- **cd**
 - “Change directory”
 - Changes the working directory to the specified directory
 - Ex: `cd cs180`



Useful commands

- **mkdir**
 - “Make directory”
 - Creates a new directory (folder)
 - Ex: `mkdir cs180`
- **touch**
 - Honestly, I don’t know why this it’s called touch 🙄(ツ)🙄
 - Creates a new file
 - Ex: `touch Hello.java`



Useful commands

- **rm**
 - “Remove”
 - Deletes the specified file (immediately)
 - **CAUTION:** You may not be able to restore files that have been deleted with `rm`
 - Ex: `rm hello.txt`, `rm -r myPictures`
- **cp**
 - “Copy”
 - Copies a file (or directory) to another directory
 - Can also be used to rename files
 - Ex: `cp Hello.java cs180/`, `cp Test.java Hello.java` (renaming)



Useful commands

- **mv**
 - “Move”
 - Move (or cut) a file (or directory) to another directory
 - Ex: `mv Hello.java cs180/`



Other UNIX stuff

- A period (.) signifies the current directory, and you can use it in your commands to refer to where you are currently.
- Two periods (..) signifies the directory directly above the current one.
 - You can “stack” them to go really far up
 - Ex: `cd ../../../../../../../../../../../../../../`
 - There might not be stuff up there, so be careful :)



So what is this Java?

- The Java programming language was created in 1995 by James Gosling.
 - While that may seem old, the language constantly gets updates (usually at least once a year).
 - Some programming languages are over 60 years old!
- Java is one of the easiest programming languages to pick up and learn while still being very powerful.



Compiling and running Java programs

- After a Java program is written, it must first be compiled before running it.
 - Compiling a program converts the program from human-readable code to instructions a computer can understand.
 - Use `javac` to compile `.java` files.
- When a Java program is compiled, it generates a `.class` file.
 - This file is portable, so you can take it to any computer with Java on it, and it should be able to run!
 - Use `java` to run `.class` files.