Lecture Participation Poll #1
Vote for discussion board platform

Log onto pollev.com/cse374
Or
Text CSE374 to 22333

Lecture 1: Intro to Linux

CSE 374: Intermediate Programming Concepts and Tools

Welcome!

- The world is BANANAS right now!

- You are not expected to be at your best this quarter and that is OK

- We are in this together

- Humans first, students second

- Patience, vulnerability, compassion

UW News: Campus 'House of Knowledge' longhouse a long-awaited dream

"We acknowledge that we are on the traditional land of the first people of Seattle, the Duwamish People past and present and honor with gratitude the land itself and the Duwamish Tribe."

Hello!

I am Kasey Champion

Software Engineer @ Karat

High School Teacher @ Franklin High

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@techie4good

Iron Fist No Mercy
"Mercy" for short

Meet your TAs

Kushal Jhunjhunwalla – kushaljh@cs.washington.edu

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Course Overview

Course Goals

- Gain a basic familiarity with the Linux
- Skills to automate common computing tasks
- Obtain beginning proficiency in C programming
- Familiarity with C++ programming language
- Learn the basics of programming tools
- Practice core software-engineering practices
- Understand the basics of shared-memory concurrency
- Learn how to acquire additional information and skills independently

Course Topics

- The Linux Operating System
- Working with the Linux Shell
- Scripting with Bash
- C Programming Language
- Computer Memory
- Software Engineering Tools and Techniques
- C++ Programming Language
- Assembly Code
- Concurrency

Course Components

Learning Components

- Lectures
  - Recorded
  - Please participate ☺
  - Password after today! "374rocks"
- Lecture Participation Polls
  - Graded on participation NOT correctness
- Exercises
  - Accompany many lectures to give focused practice on individual topics
- Homeworks
  - Larger assignments sprinkled throughout quarter
- Review Assignments
  - 3 this quarter
  - Optional group assignment
  - "Test like questions" without time limit and full access to notes
- Office Hours
  - Please come hang out with us!

Course Tools

- Class webpage
  - Central location for all information
- Course canvas
  - Gradebook
- Zoom
  - Lectures
- Poll Everywhere
  - Lecture participation
- Gradescope
  - Assignment submission
- Discussion board
  - Get help
- Anonymous Feedback Tool
  - Tell us how it's going

Course Policies

Turn In Policy
- Homework
  - Open once content is covered
  - "Due" on Fridays -1.5 to 3 weeks later
    - 5% ec bonus for making suggested due dates
  - 11/6 Midpoint firm deadline
    - 20% penalty / 24hrs late
- Exercises
  - Open at end of lectures
  - Due 1 week later
  - 10% penalty / 24hrs late
- Review Assignments
  - Solo or groups of 2 to 4
  - Open on Friday, due 1 week later
    - 20% penalty 24hrs late
    - 50% penalty 48hrs late
    - **No assignment accepted later than 48 hrs**
- Participation
  - Poll everywhere open at start of lecture
  - Due 32 hours later
 - **No late polls will be accepted**

Grade Breakdown
- Homework
- Exercises
- Review Assignments
- Participation

Academic Misconduct
- Don't share your code
- Don't look at others code
- Don't "step by step"
- DO talk to one another about concepts and approaches
- DO look things up on the internet

Accommodations and Extenuating Circumstances
- Make sure you get the support you are entitled to via DRS
  - If you're having issues with DRS system reach out to Kasey
- When in doubt, reach out!
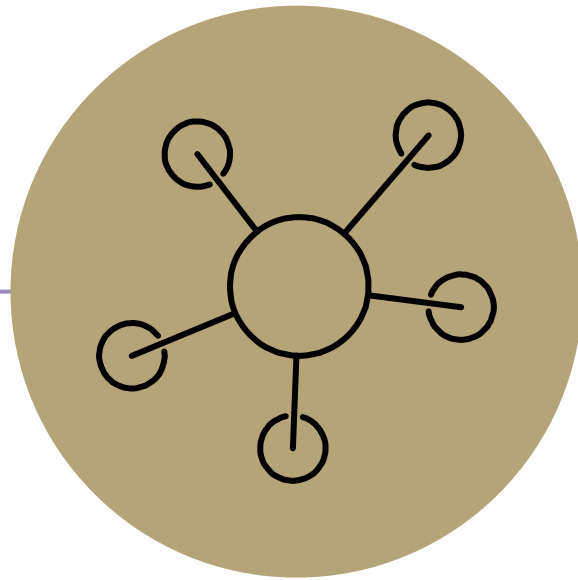
Questions?

Meet Linux

What is Linux?

- Linux is an **operating system** like Windows or MacOS

  - The **operating system** manages the relationship between computer hardware, software resources and user interaction points

- Interact with the Linux machine via the **shell**

  - The **shell** is a text-based interface to the computer, for linux specifically "bash"

  - The shell is run by the **terminal** program

- Linux also has a GUI interface, just like Windows and Mac have shell interfaces

  - Text interface is harder to use, but more efficient

  - Text interface allows for task automation

- Linux was built in C using open source licensing and philosophies
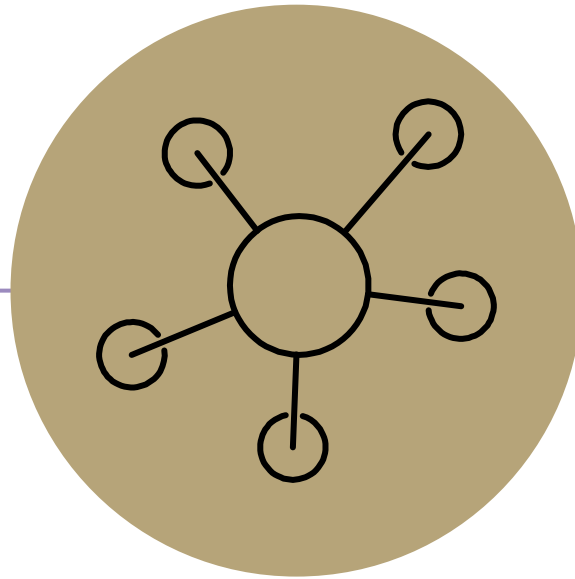
What Makes Linux "Linux"?

– Linux is a family of **open source Unix**–like operating systems based on **Linux kernel**

  – **Linux kernel** was written by Linus Torvalds using the **GNU Project open source** system

  – **GNU Project** believed in freedom

    – freedom to run a program for any purpose

    – freedom to study the mechanics of the program and modify it

    – freedom to redistribute copies

    – freedom to improve and change modified versions for public use

  – GNU Project allowed Torvalds to make the Linux Kernel free and open for development by other engineers

  – MacOS is also based on unix kernel (Steve Jobs used Carnegie Mellon Mach kernel to take NeXT to market faster)

  – Android and Chrome OS based on Linux Kernel

https://www.pcmag.com/news/l

Trivia
Linus Torvalds had wanted to call his invention Freax, a combination of "free", "freak", and "x" (as an allusion to Unix). One of the volunteer administrators for the FTP server hated the name and instead named the project "Linux" on the server without consulting Torvalds. Torvalds disliked the name Linux as he found it too egotistical, but the name stuck.

Linux Demo

Recorded Demo from 374 Sp 20 Instructor Megan Hazen

Questions?