National Textile University

Department of Computer Science

Subject: Operating System

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Reg number:

23-NTU-CS-1141

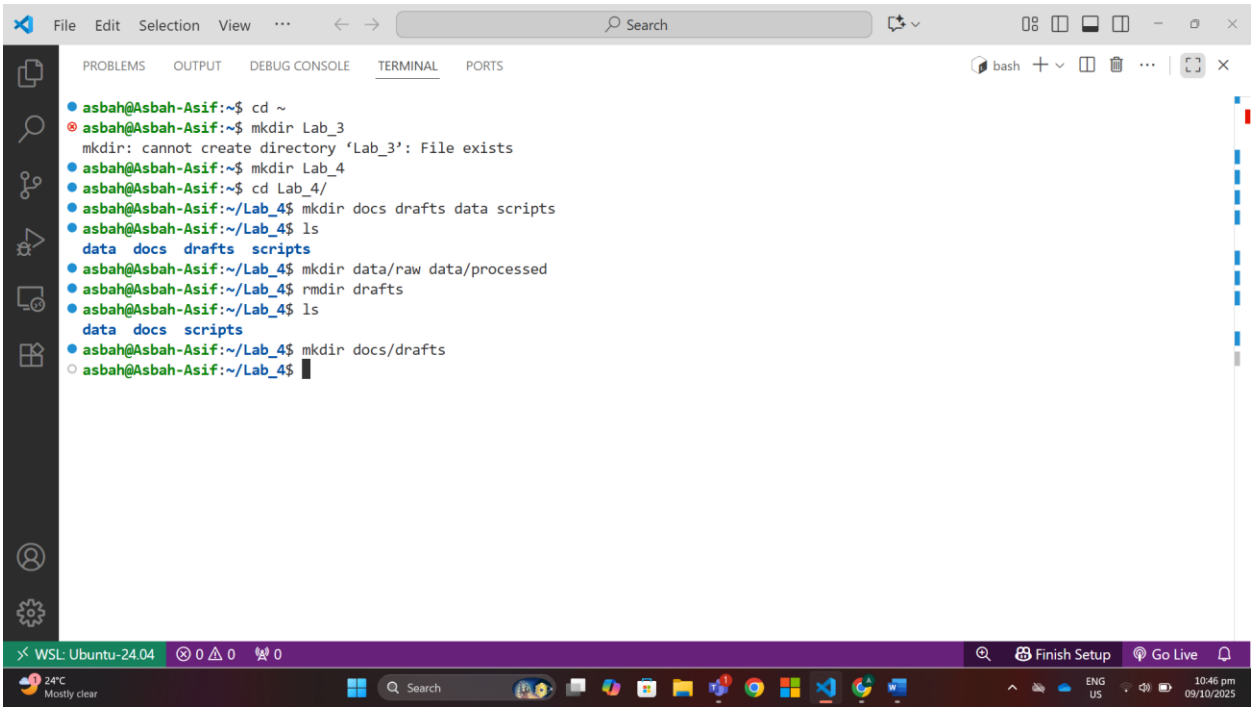
Lab no: 3 Hometask

Lab 03

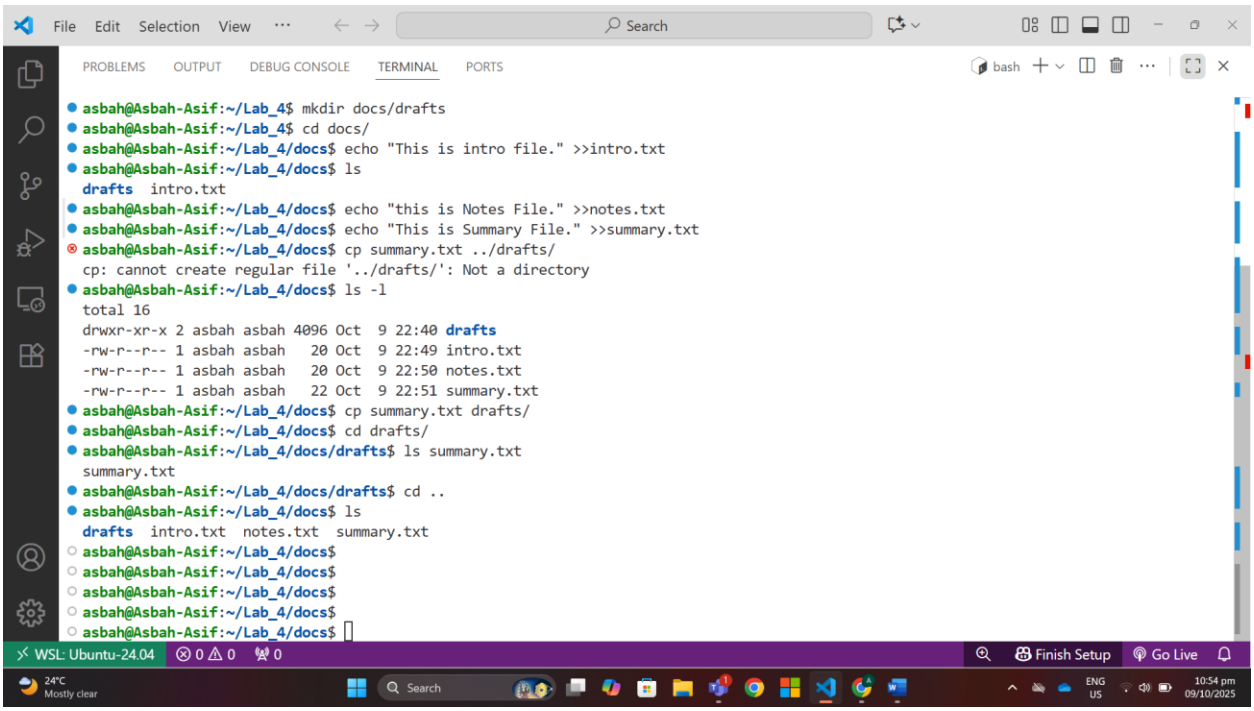
Part 1: File and Directory Operations

1. Create the following directory structure in your home directory:

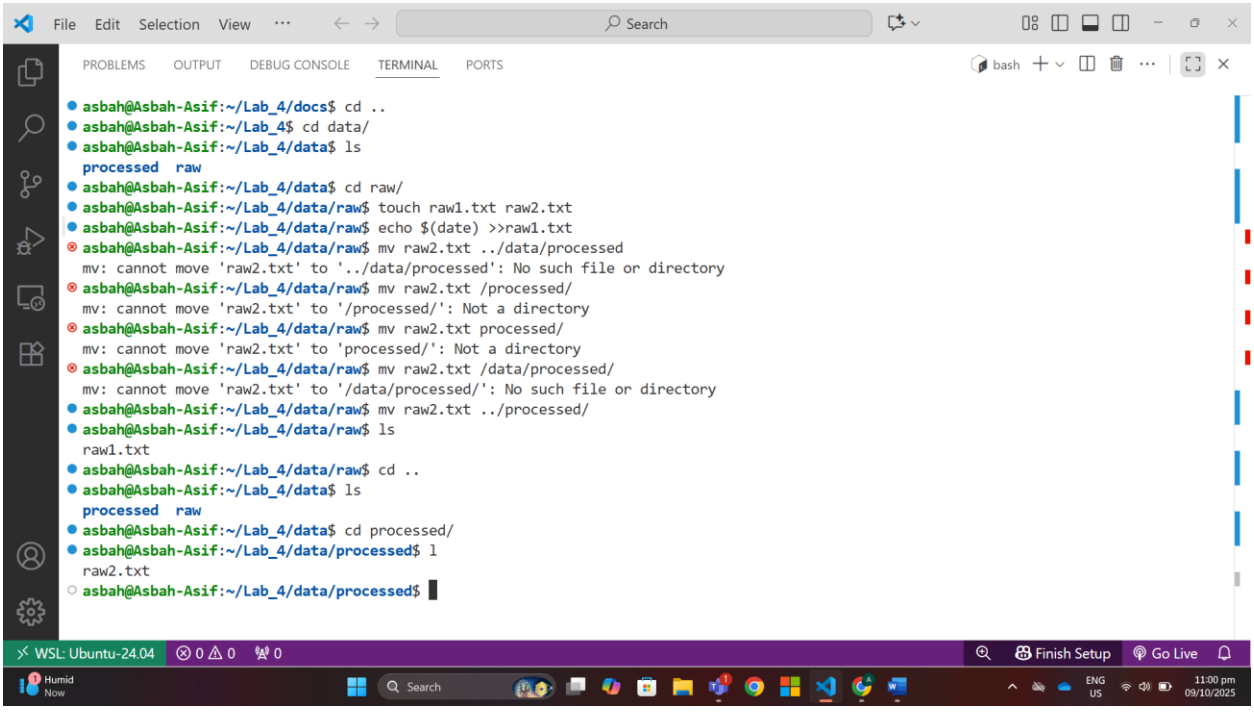
Lab_3/ ├── docs/ │ └── drafts/ ├── data/ │ ├── raw/ │ └── processed/ └── scripts/



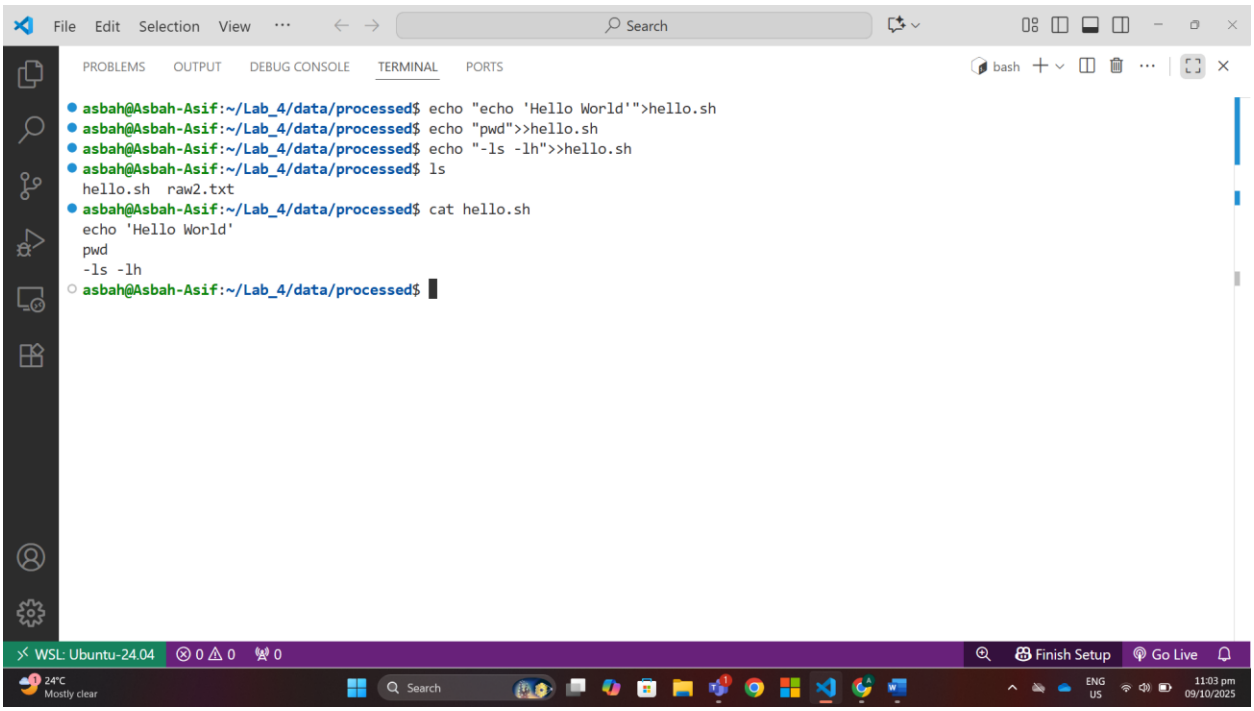
2. Inside docs/: - Create three files: intro.txt, notes.txt, summary.txt. - Add at least two lines of text into each using echo >>. - Copy summary.txt into the drafts/ folder using cp.



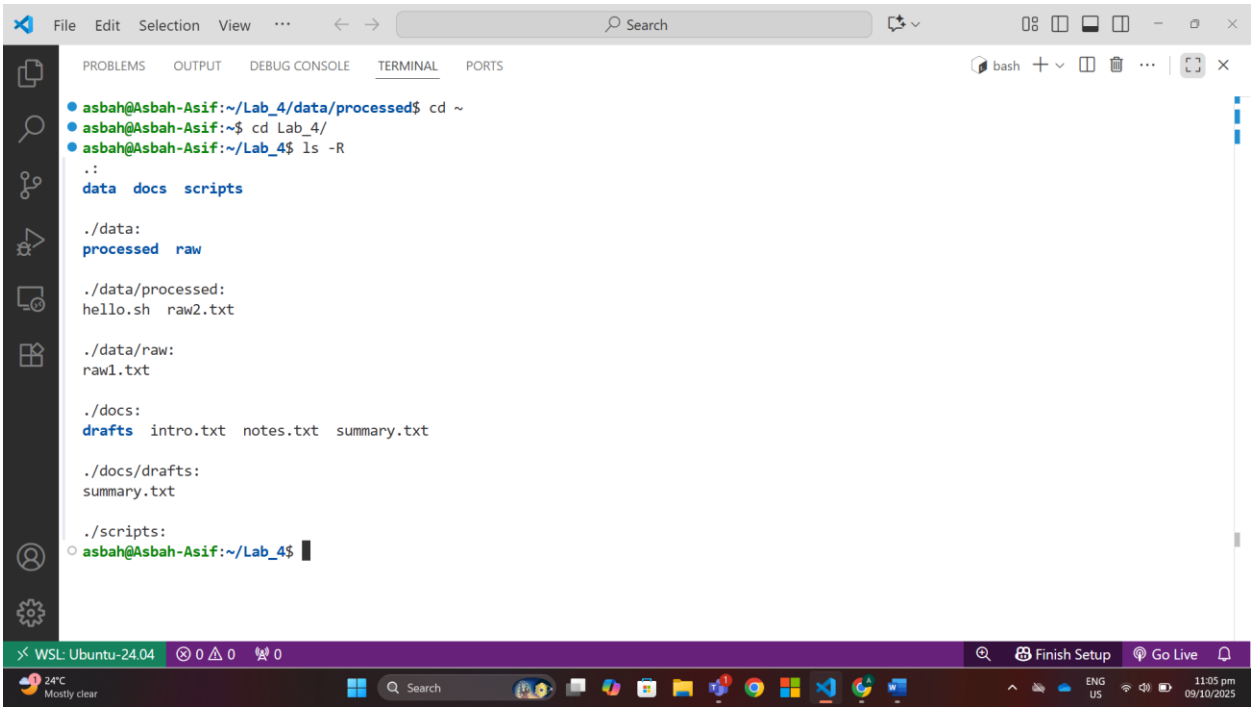
3. Inside data/raw/: - Create two files: raw1.txt, raw2.txt. - Append the current date into raw1.txt using the date command. - Move raw2.txt into processed/ using mv source destination.



4. Inside scripts/: - Create a script named hello.sh with the following content: bash echo "Hello World" pwd ls -lh - Later, you will make it executable (in Part 3).

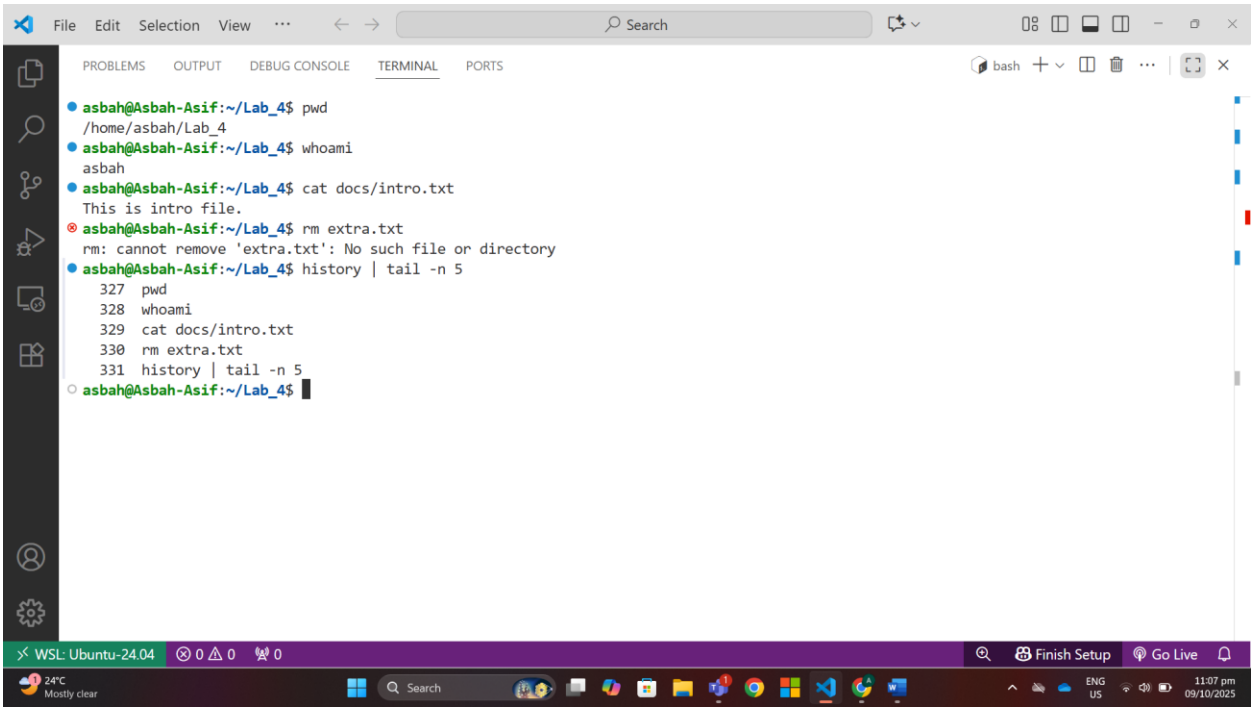


5. Display the directory structure recursively:



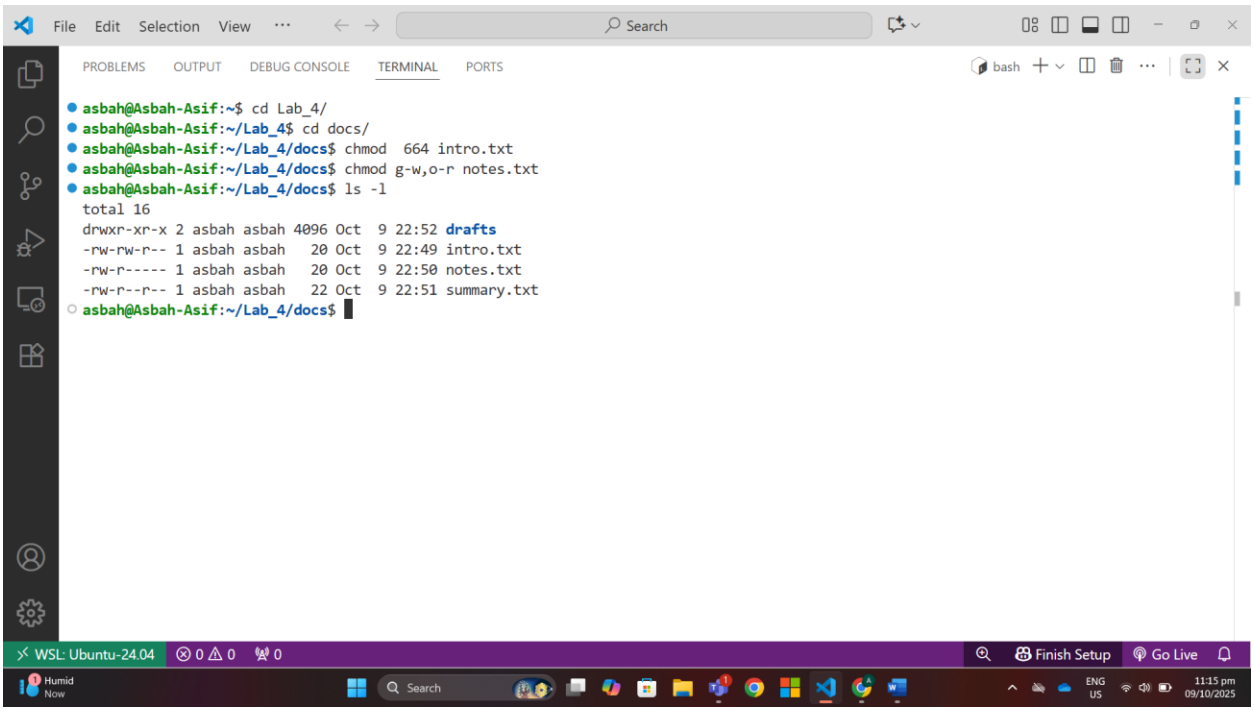
Part 2: Practice with Basic Linux Commands Run the following commands inside Lab_3/ and note their outputs: pwd # Show current working directory whoami

Display the current logged-in user touch extra.txt # Create an empty file cat docs/intro.txt # Display file contents rm extra.txt # Delete a file history | tail -n 5 # Show your last 5 executed commands clear # Clear the terminal

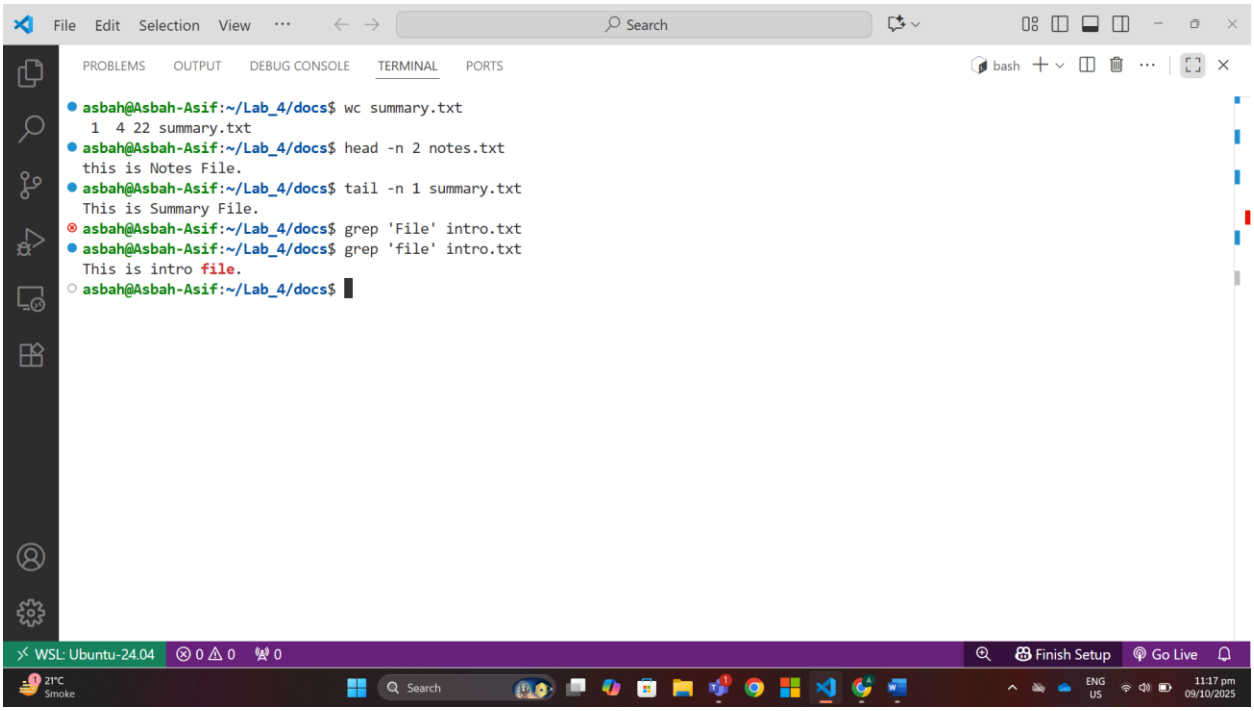


Part 3: File Permissions and Ownership 1. Change permissions of hello.sh: - Owner → Read, Write & Execute - Group → Read, Write & Execute - Others → No permissions

2. Change permissions of intro.txt using numeric notation: - Owner → Read & Write - Group → Read & Write - Others → Read only 3. Change permissions of notes.txt using symbolic notation: - Remove write permission from group and read from others. 4. Verify all changes:

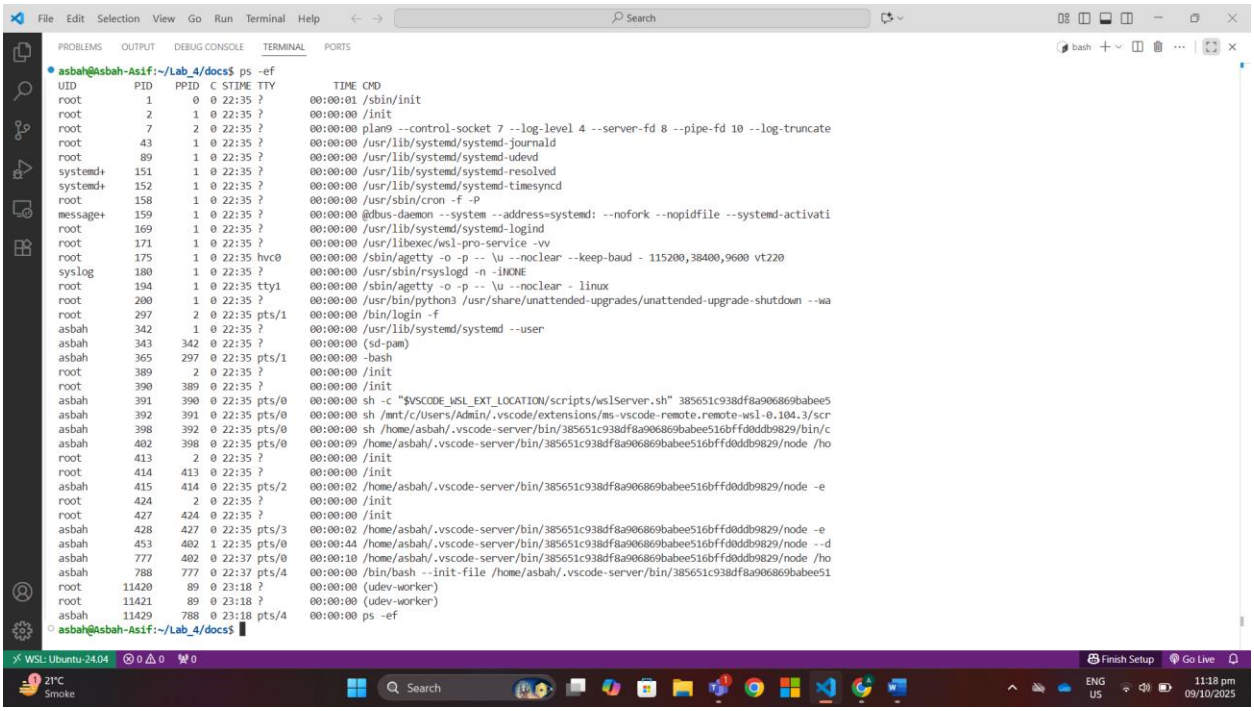


Part 4: Reading & Searching Files Inside docs/: wc summary.txt # Count lines, words, and characters head -n 2 notes.txt # Show first 2 lines tail -n 1 summary.txt # Show last line grep 'keyword' intro.txt # Search for a keyword

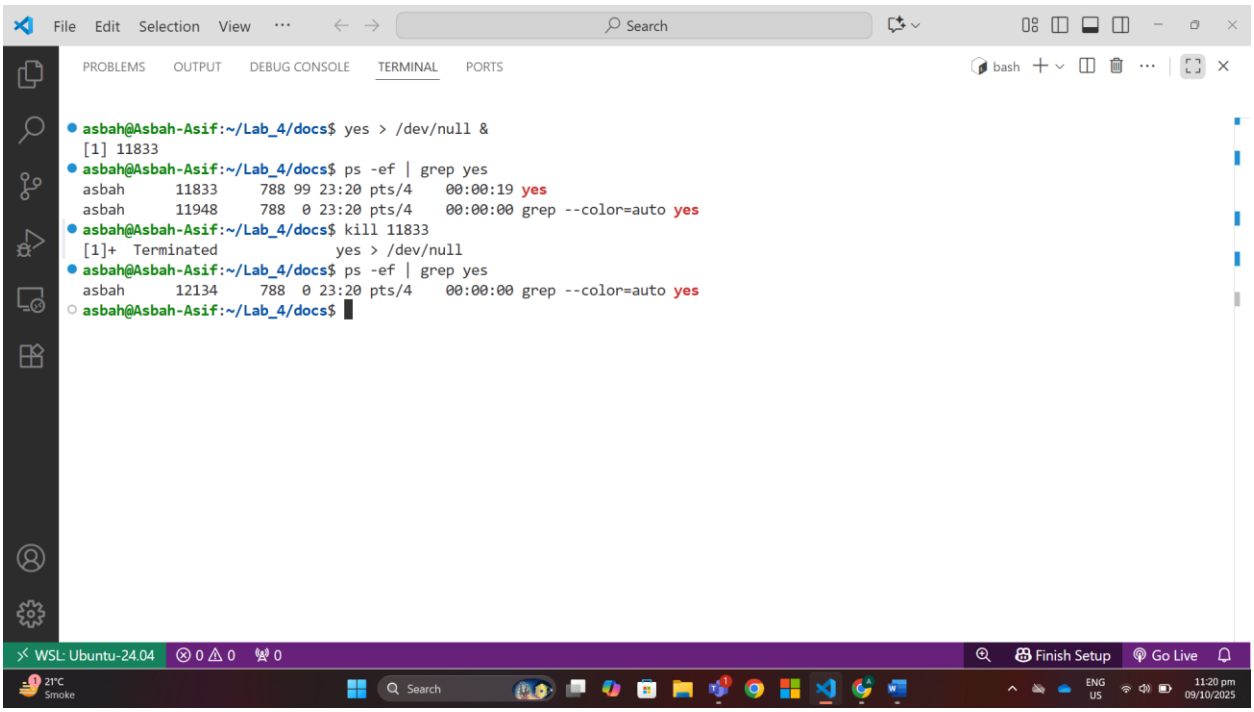


Part 5: Linux Process Commands

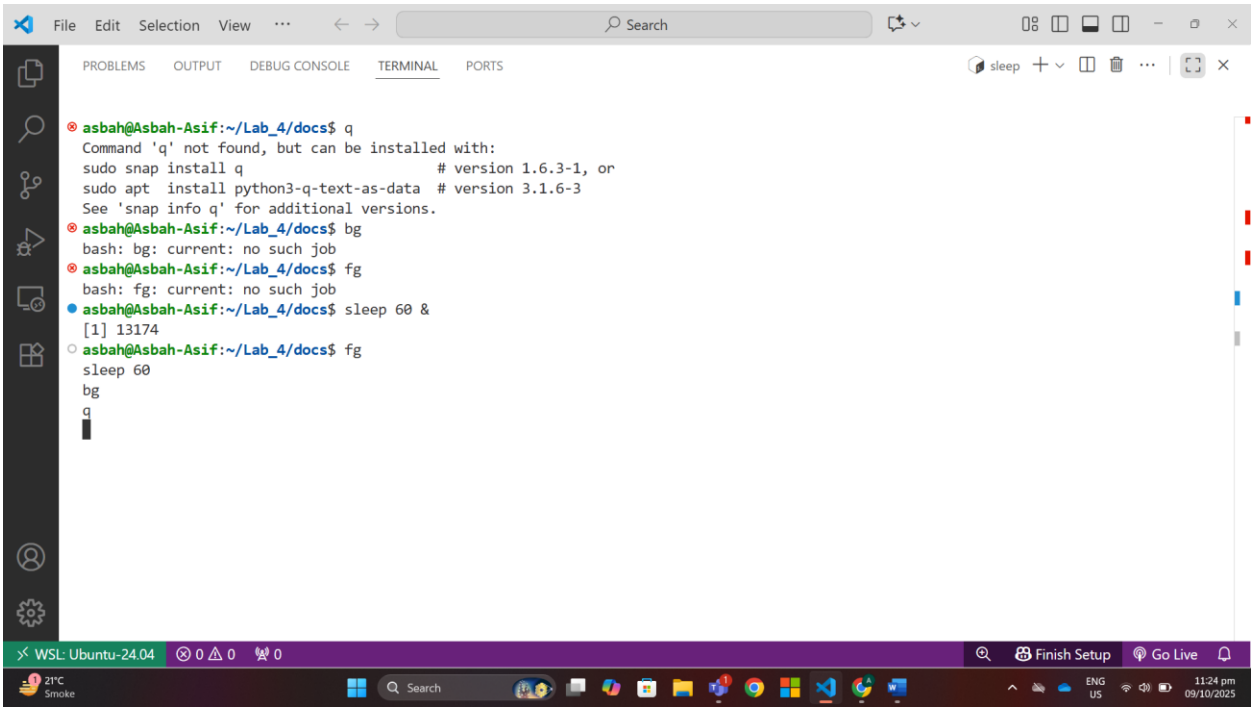
1. Exploring Processes



2. Infinite Process Practice



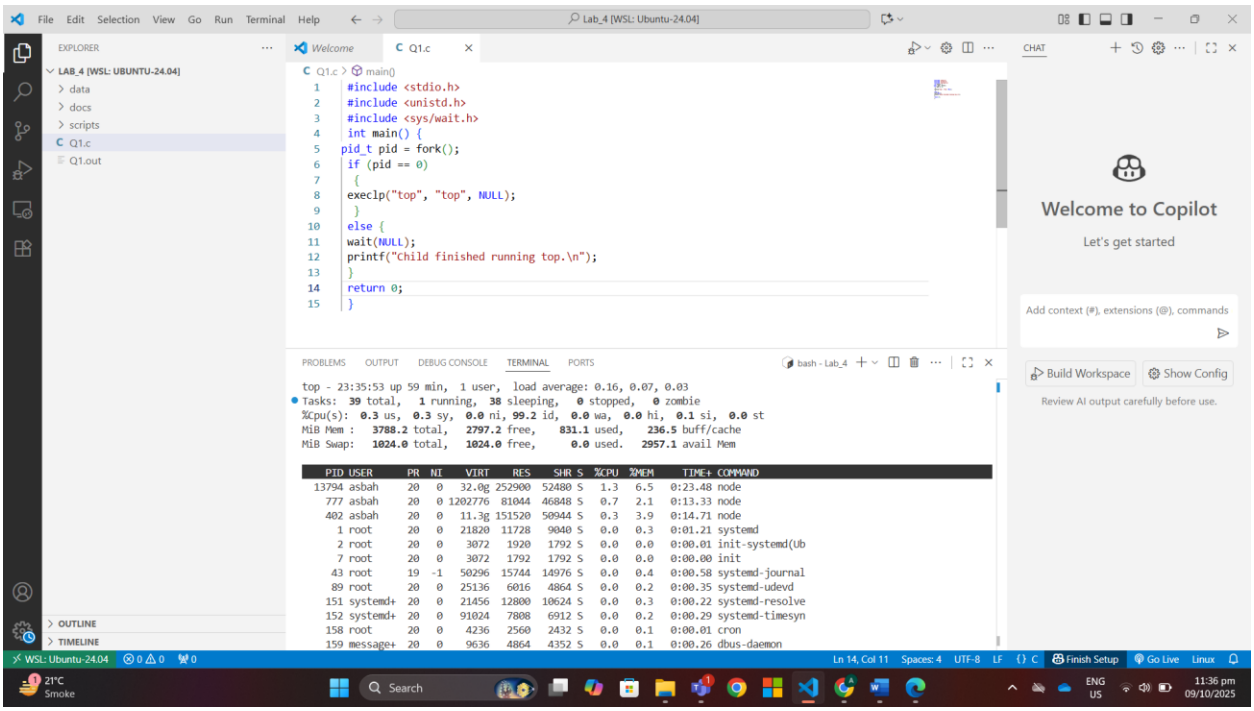
3. Foreground & Background Jobs



Part 6:

C Programs on Processes

Program 1 – Exec with top



Program 2 – Exec with date (to complete)