National Textile University

Department of Computer Science

Subject:

Operating System

Submitted to:

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Submitted by:

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Reg number:

23-NTU-CS-1150

Semester:

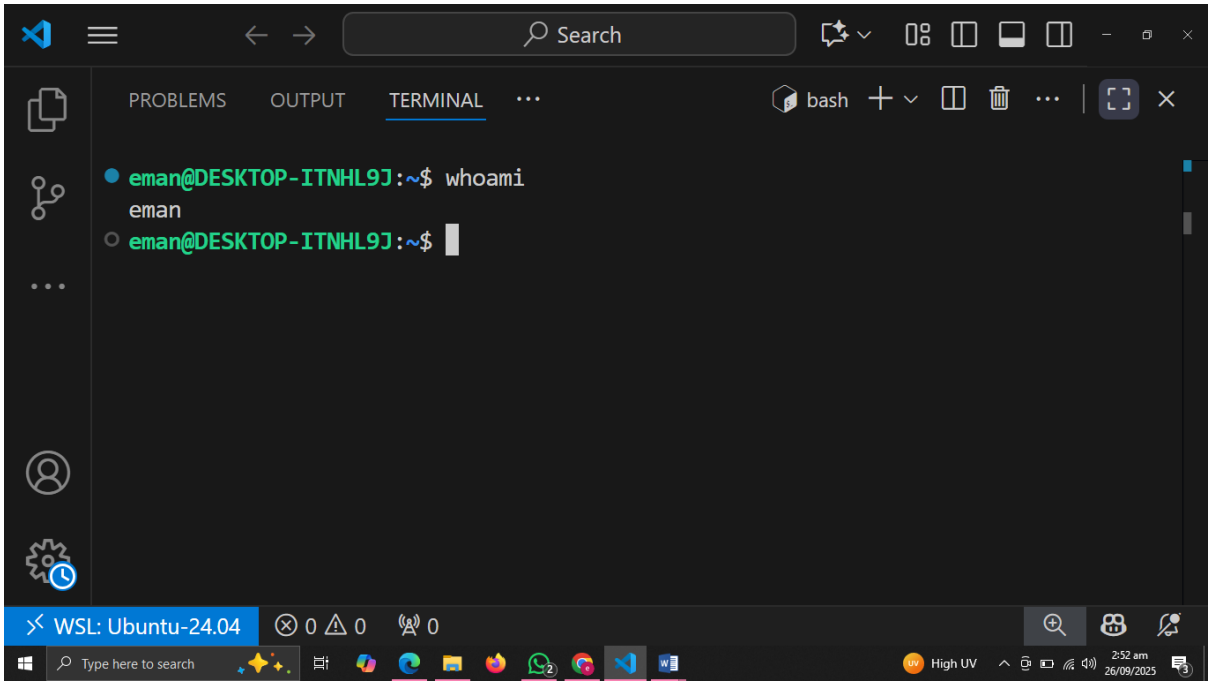
05

Part 1: Linux Environment Orientation

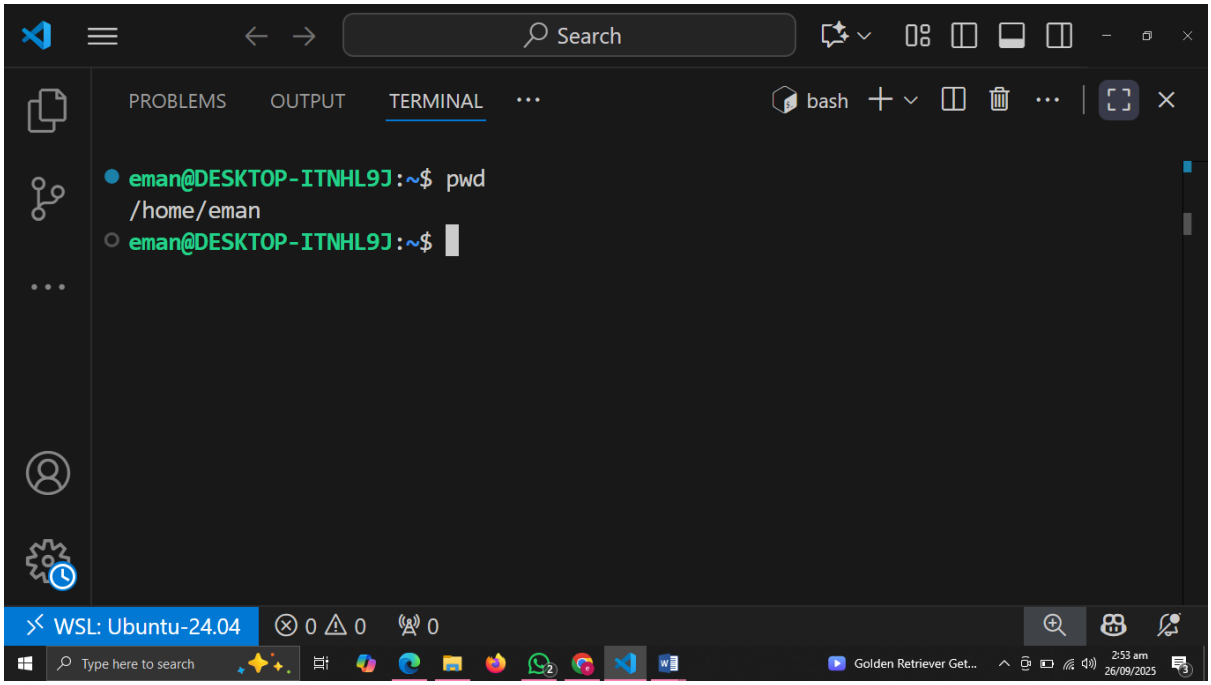
1.1 Understanding the Linux Environment

Commands:

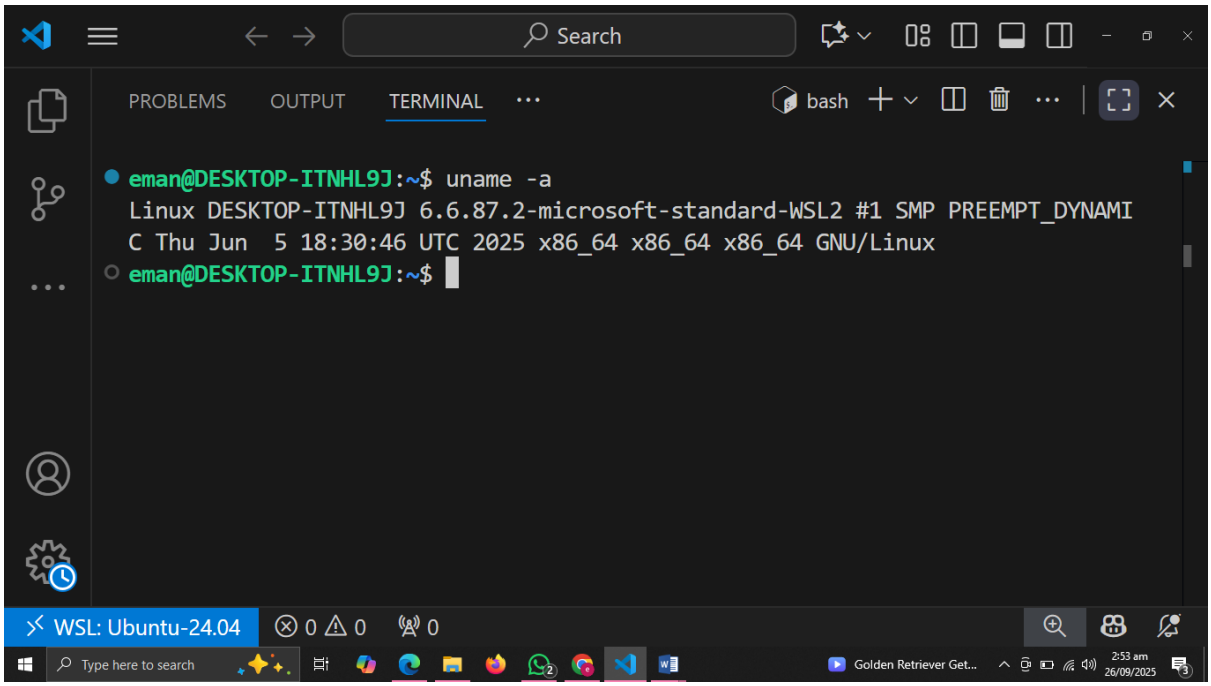
- Whoami



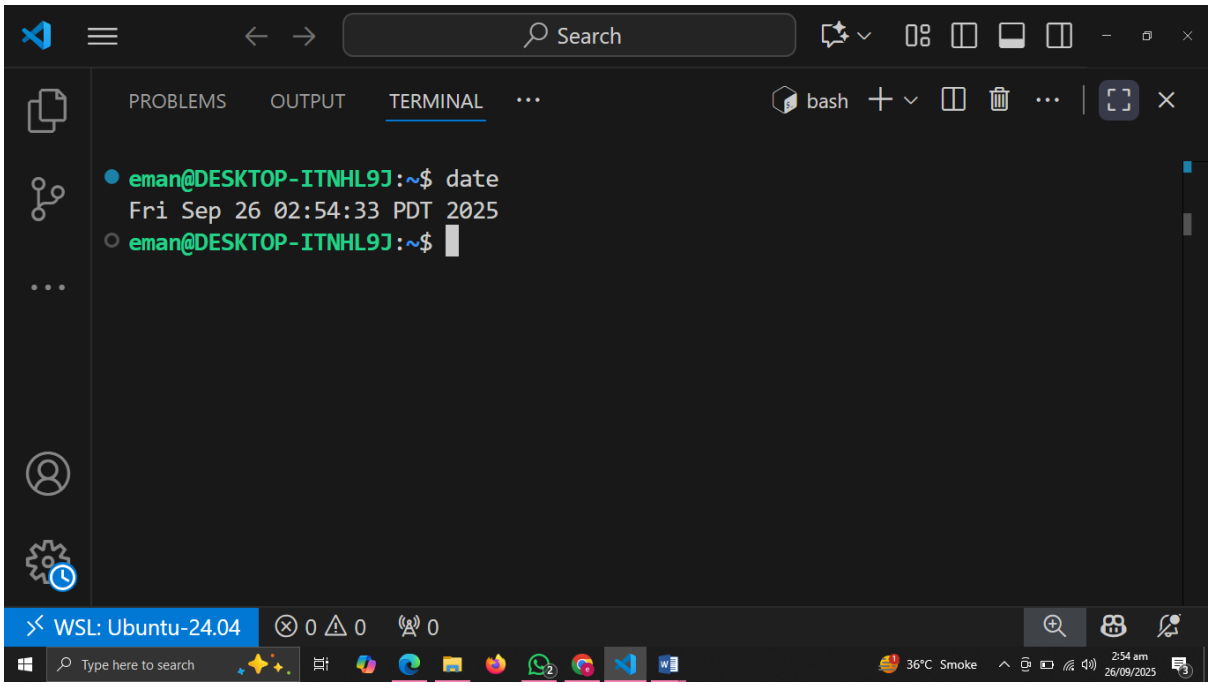
- Pwd



- Uname -a


Search
PROBLEMS
OUTPUT
TERMINAL
bash
eman@DESKTOP-ITNHL9J:~$ uname -a
Linux DESKTOP-ITNHL9J 6.6.87.2-microsoft-standard-WSL2 #1 SMP PREEMPT_DYNAMI
C Thu Jun 5 18:30:46 UTC 2025 x86_64 x86_64 x86_64 GNU/Linux
eman@DESKTOP-ITNHL9J:~$
WSL: Ubuntu-24.04
0 0
0
Type here to search
Golden Retriever Get...
2:53 am
26/09/2025

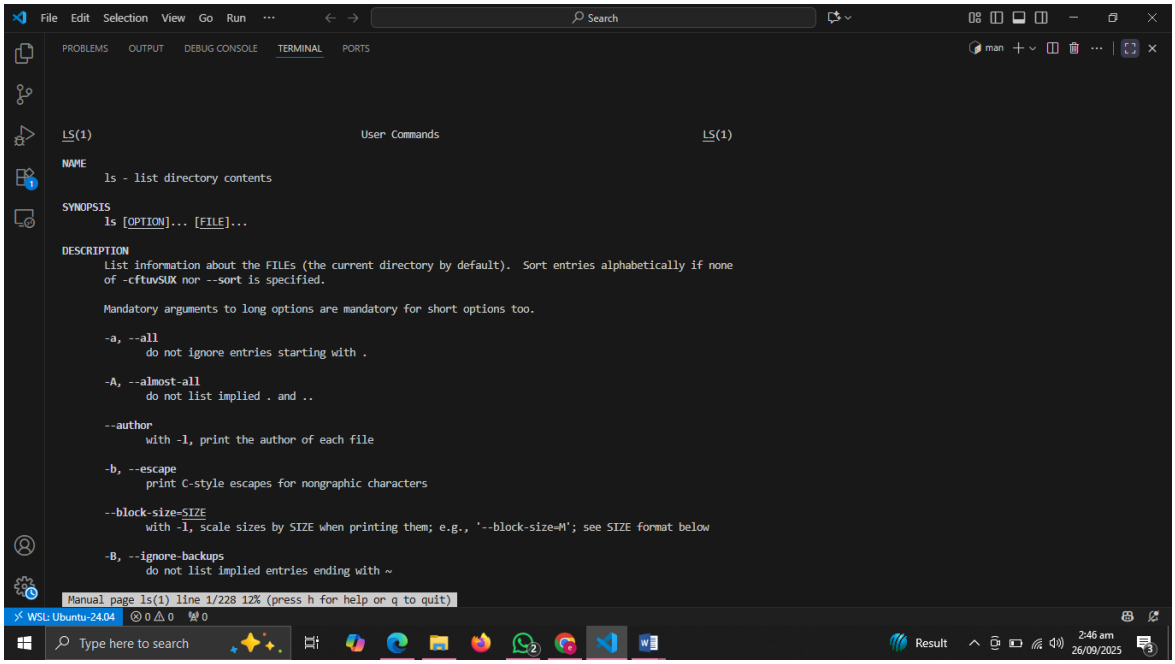
- Date


Search
PROBLEMS
OUTPUT
TERMINAL
bash
eman@DESKTOP-ITNHL9J:~$ date
Fri Sep 26 02:54:33 PDT 2025
eman@DESKTOP-ITNHL9J:~$
WSL: Ubuntu-24.04
0 0
0
Type here to search
36°C Smoke
2:54 am
26/09/2025

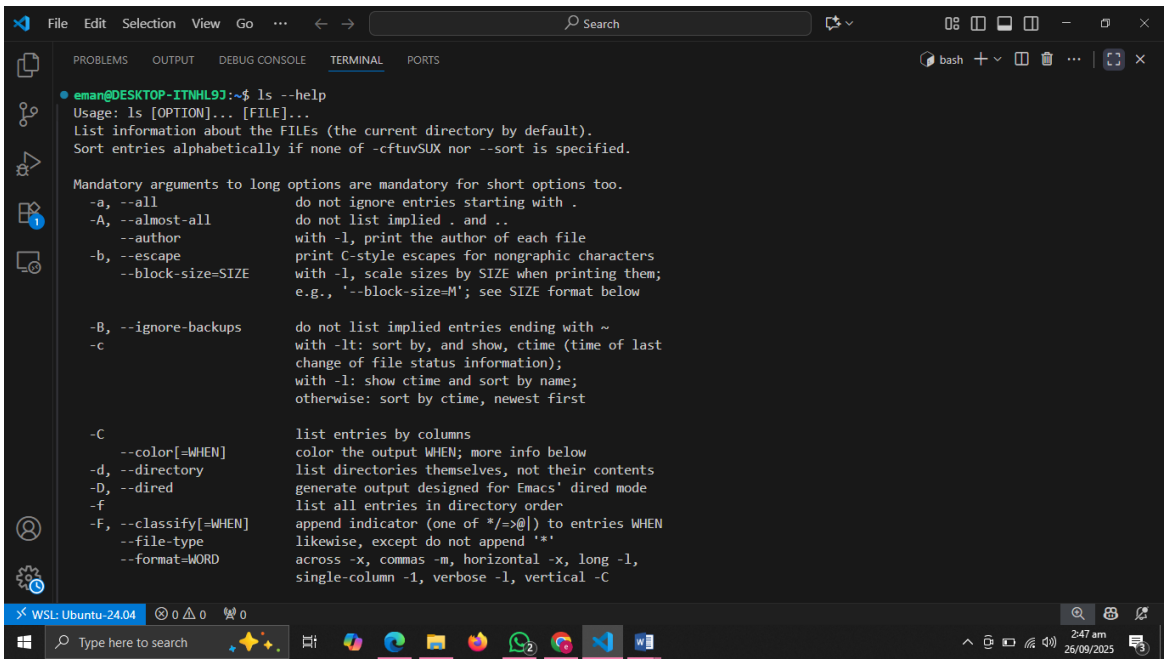
1.2 Getting Help in Linux

Commands to demonstrate:

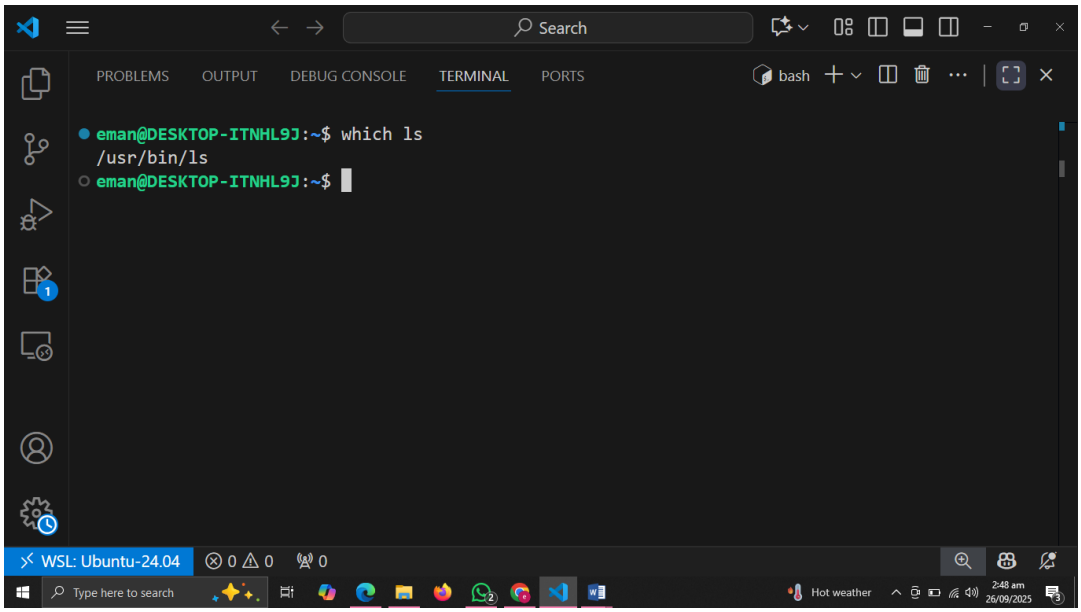
- man ls



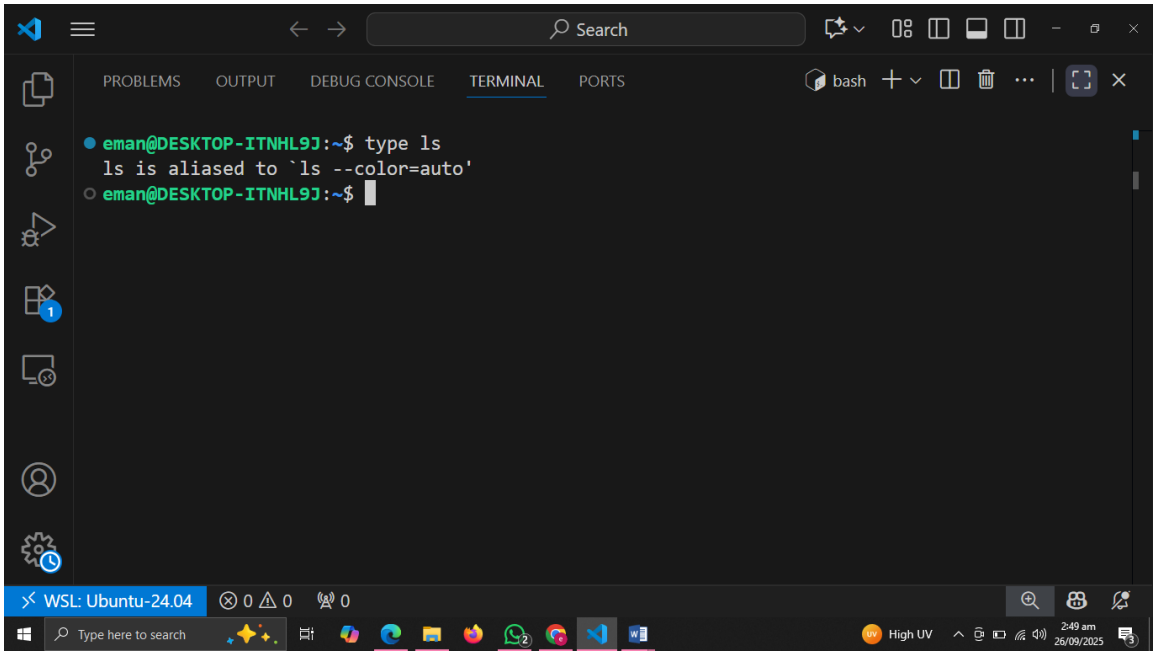
- ls –help



- which ls



- type ls

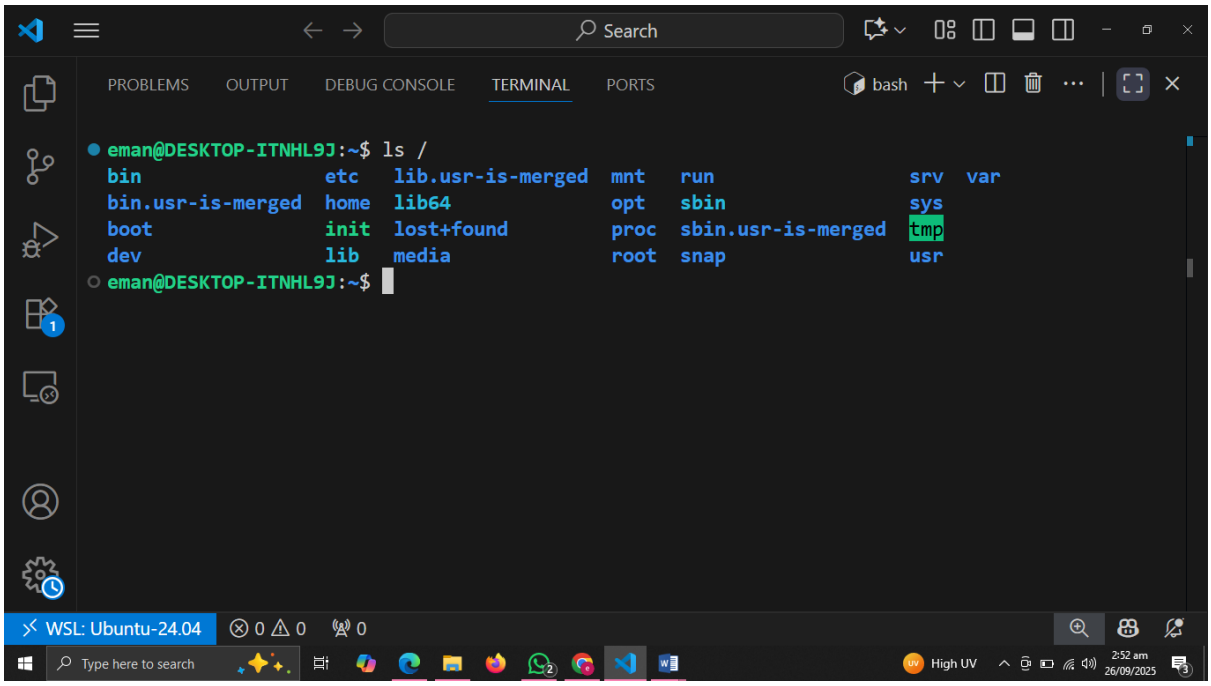


Part 2: File System Navigation

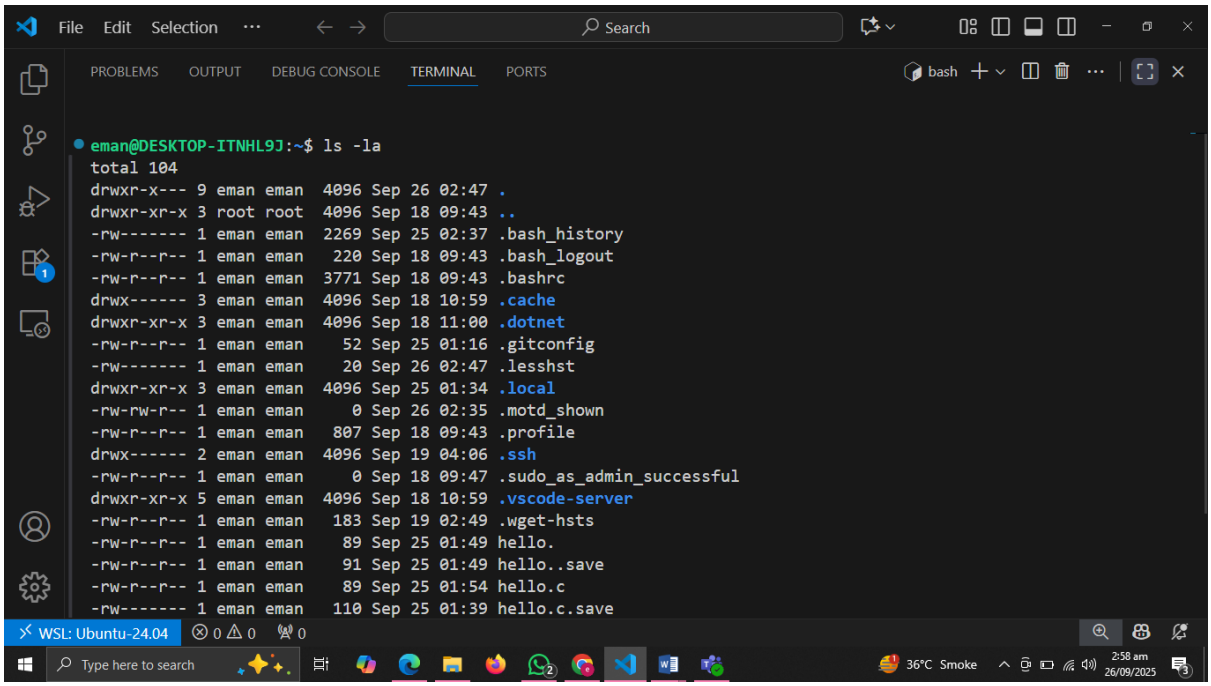
2.1 Understanding Linux Directory Structure

Demonstration:

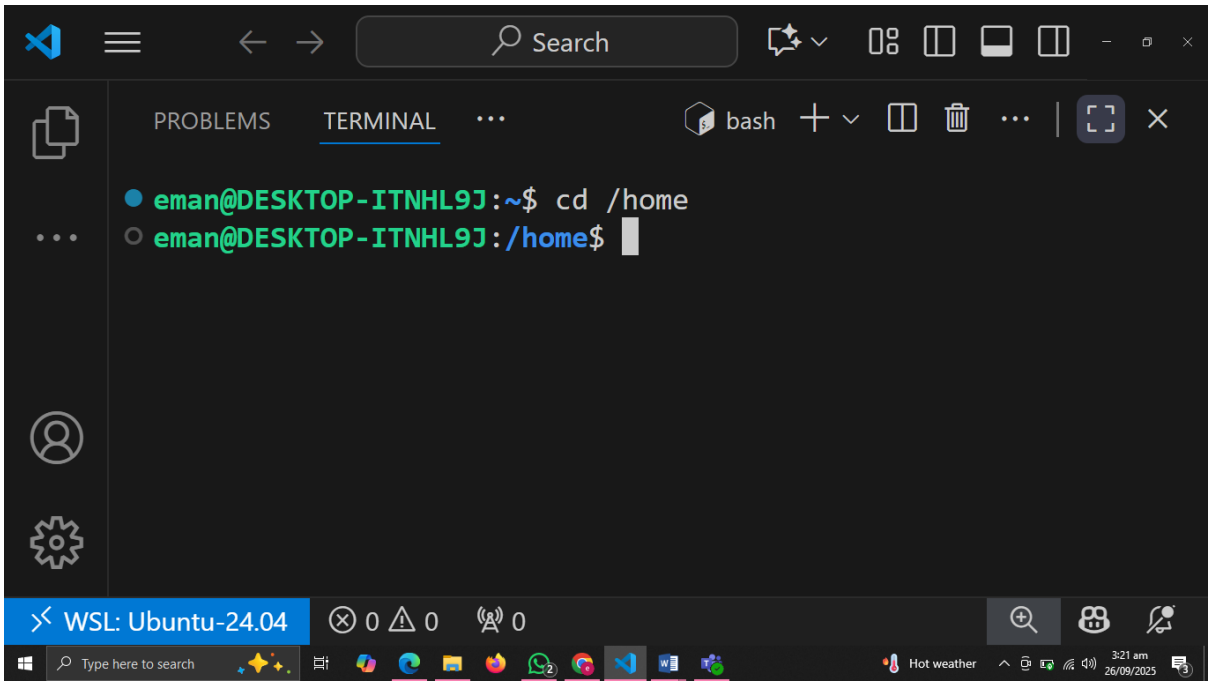
- ls /


Search
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
bash
eman@DESKTOP-ITNHL9J:~$ ls /
bin boot dev etc home init lib lib.usr-is-merged lib64 lost+found media mnt opt proc root run sbin sbin.usr-is-merged snap srv sys tmp usr var
eman@DESKTOP-ITNHL9J:~$
WSL: Ubuntu-24.04
Type here to search
High UV
2:52 am
26/09/2025

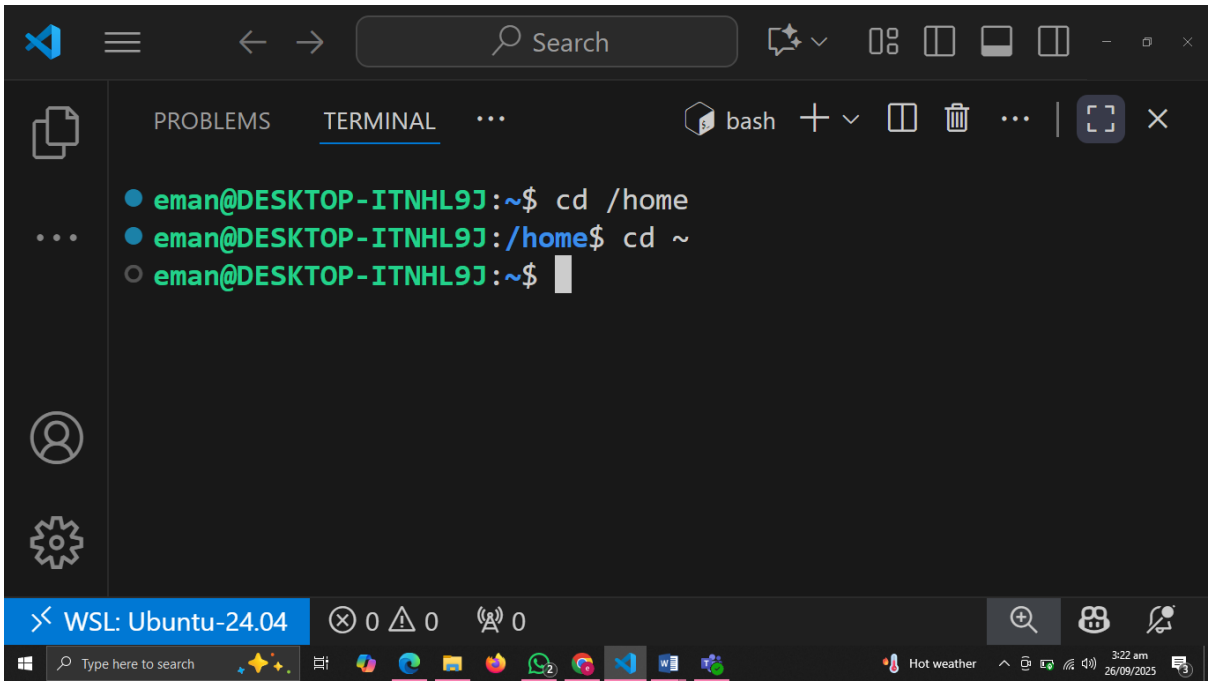
- ls -la


File
Edit
Selection
Search
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
bash
eman@DESKTOP-ITNHL9J:~$ ls -la
total 104
drwxr-x--- 9 eman eman 4096 Sep 26 02:47 .
drwxr-xr-x 3 root root 4096 Sep 18 09:43 ..
-rw------- 1 eman eman 2269 Sep 25 02:37 .bash_history
-rw-r--r-- 1 eman eman 220 Sep 18 09:43 .bash_logout
-rw-r--r-- 1 eman eman 3771 Sep 18 09:43 .bashrc
drwx------ 3 eman eman 4096 Sep 18 10:59 .cache
drwxr-xr-x 3 eman eman 4096 Sep 18 11:00 .dotnet
-rw-r--r-- 1 eman eman 52 Sep 25 01:16 .gitconfig
-rw------- 1 eman eman 20 Sep 26 02:47 .lesshst
drwxr-xr-x 3 eman eman 4096 Sep 25 01:34 .local
-rw-rw-r-- 1 eman eman 0 Sep 26 02:35 .motd_shown
-rw-r--r-- 1 eman eman 807 Sep 18 09:43 .profile
drwx------ 2 eman eman 4096 Sep 19 04:06 .ssh
-rw-r--r-- 1 eman eman 0 Sep 18 09:47 .sudo_as_admin_successful
drwxr-xr-x 5 eman eman 4096 Sep 18 10:59 .vscode-server
-rw-r--r-- 1 eman eman 183 Sep 19 02:49 .wget-hsts
-rw-r--r-- 1 eman eman 89 Sep 25 01:49 hello.
-rw-r--r-- 1 eman eman 91 Sep 25 01:49 hello..save
-rw-r--r-- 1 eman eman 89 Sep 25 01:54 hello.c
-rw------- 1 eman eman 110 Sep 25 01:39 hello.c.save
WSL: Ubuntu-24.04
Type here to search
36°C Smoke
2:58 am
26/09/2025

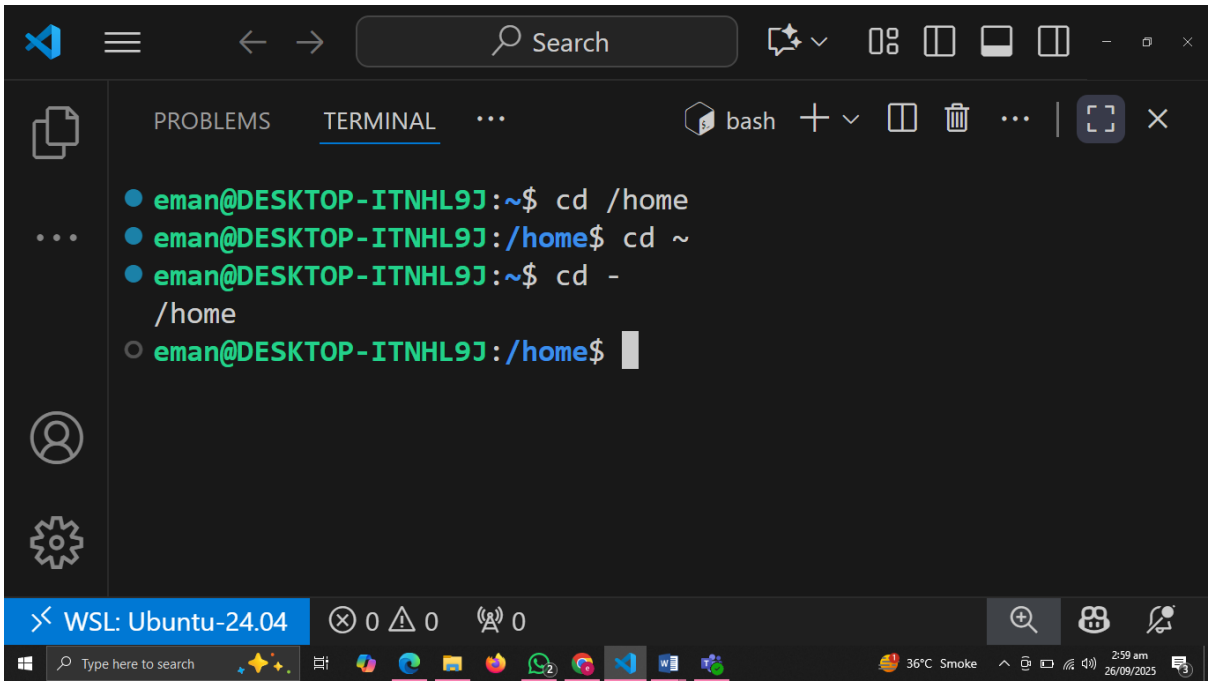
- cd /home


Search
PROBLEMS
TERMINAL
bash
eman@DESKTOP-ITNHL9J:~$ cd /home
eman@DESKTOP-ITNHL9J:/home$
WSL: Ubuntu-24.04
0 0
0
Type here to search
Hot weather
3:21 am
26/09/2025

- cd ~


Search
PROBLEMS
TERMINAL
bash
eman@DESKTOP-ITNHL9J:~$ cd /home
eman@DESKTOP-ITNHL9J:/home$ cd ~
eman@DESKTOP-ITNHL9J:~$
WSL: Ubuntu-24.04
0 0
0
Type here to search
Hot weather
3:22 am
26/09/2025

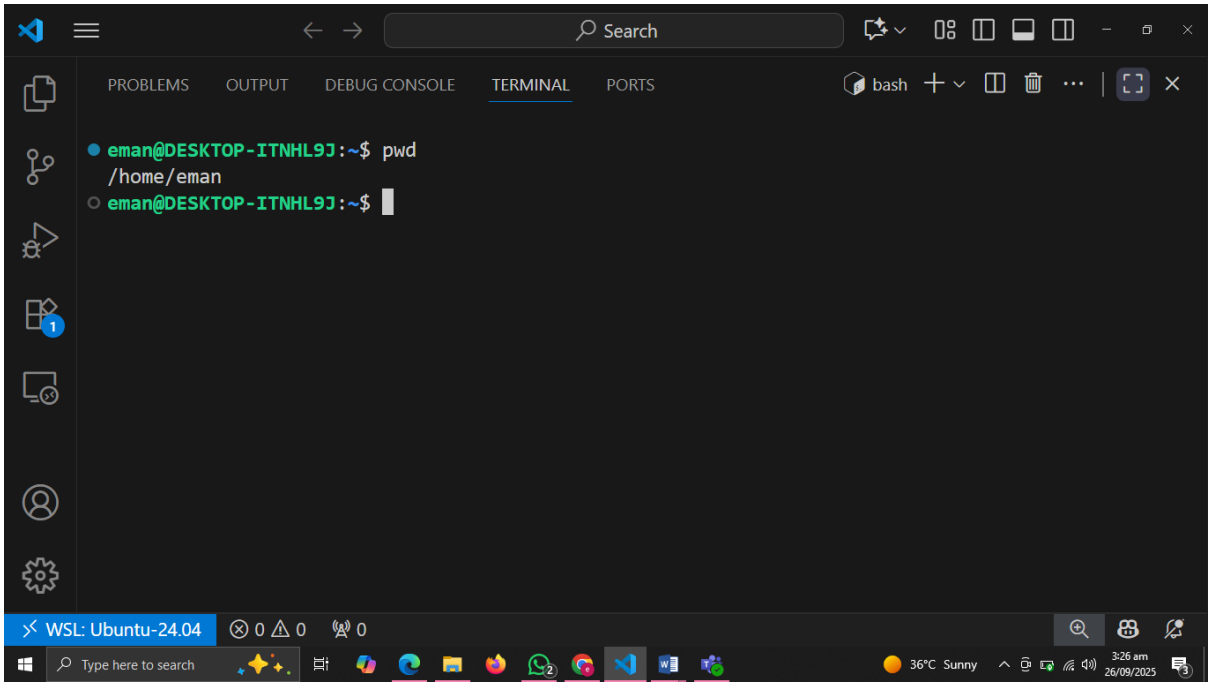
- cd –



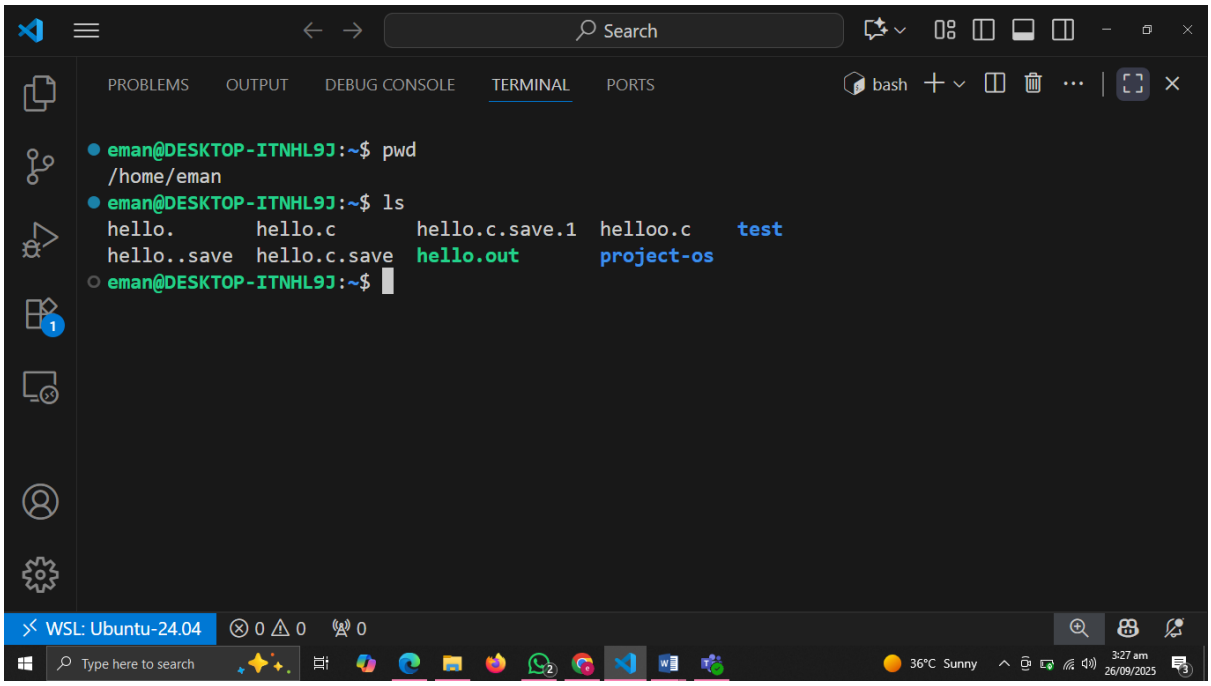
2.2 Basic Navigation Commands

Comands to practice

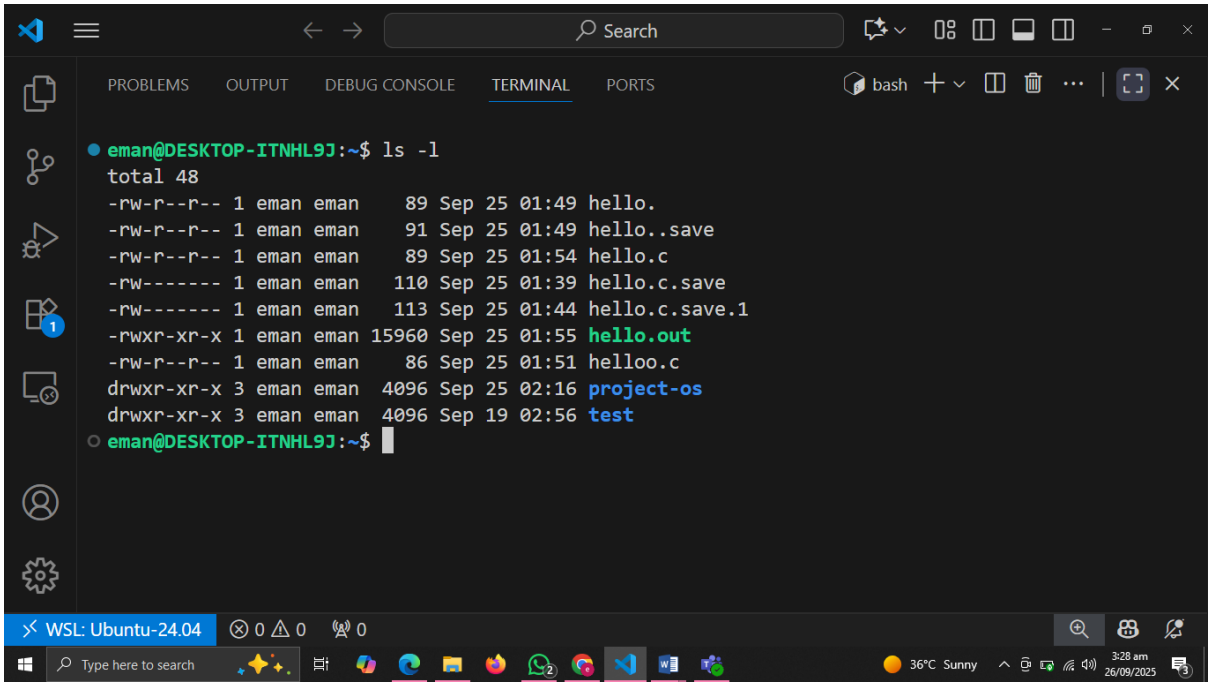
- pwd



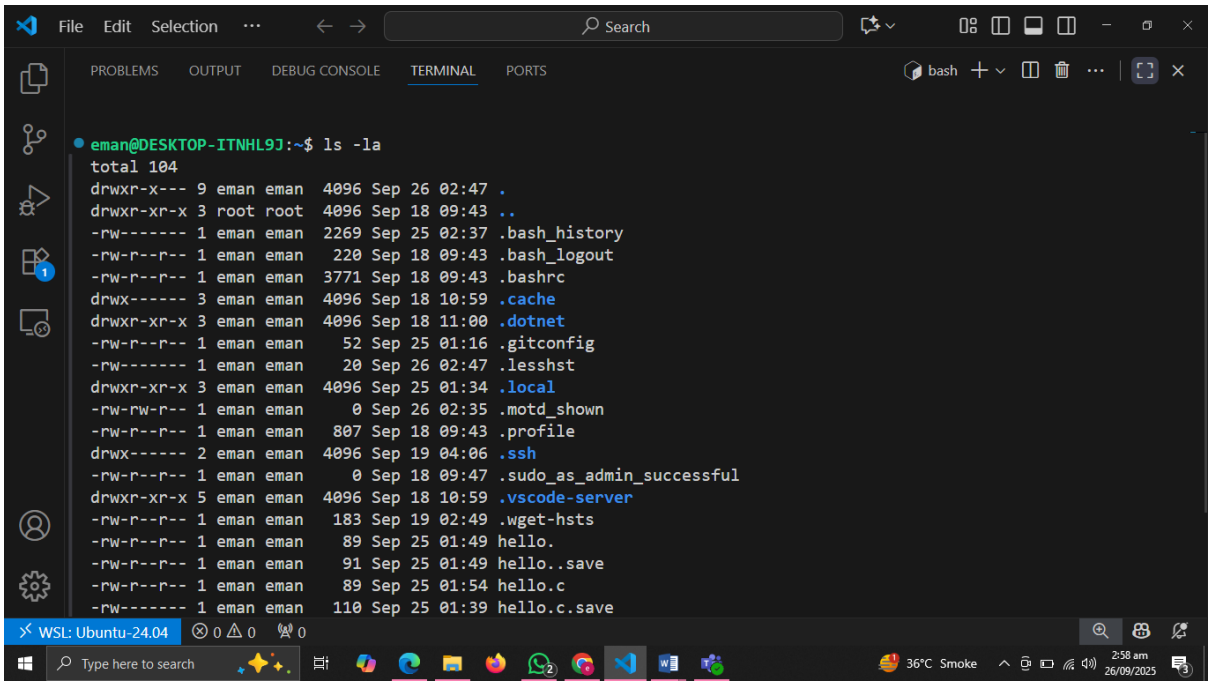
- ls


Search
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
bash
eman@DESKTOP-ITNHL9J:~$ pwd
/home/eman
eman@DESKTOP-ITNHL9J:~$ ls
hello.
hello.c
hello.c.save.1
helloo.c
test
hello..save
hello.c.save
hello.out
project-os
eman@DESKTOP-ITNHL9J:~$
WSL: Ubuntu-24.04
Type here to search
36°C Sunny
3:27 am
26/09/2025

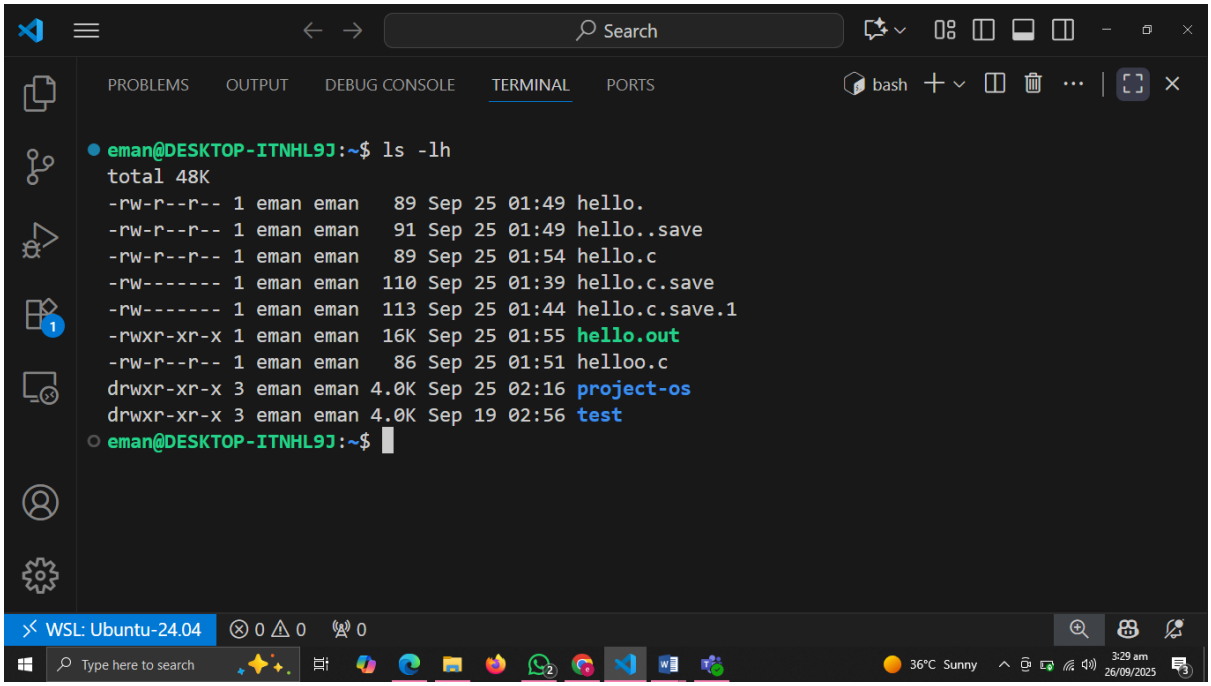
- ls -l


Search
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
bash
eman@DESKTOP-ITNHL9J:~$ ls -l
total 48
-rw-r--r-- 1 eman eman 89 Sep 25 01:49 hello.
-rw-r--r-- 1 eman eman 91 Sep 25 01:49 hello..save
-rw-r--r-- 1 eman eman 89 Sep 25 01:54 hello.c
-rw------- 1 eman eman 110 Sep 25 01:39 hello.c.save
-rw------- 1 eman eman 113 Sep 25 01:44 hello.c.save.1
-rwxr-xr-x 1 eman eman 15960 Sep 25 01:55 hello.out
-rw-r--r-- 1 eman eman 86 Sep 25 01:51 helloo.c
drwxr-xr-x 3 eman eman 4096 Sep 25 02:16 project-os
drwxr-xr-x 3 eman eman 4096 Sep 19 02:56 test
eman@DESKTOP-ITNHL9J:~$
WSL: Ubuntu-24.04
Type here to search
36°C Sunny
3:28 am
26/09/2025

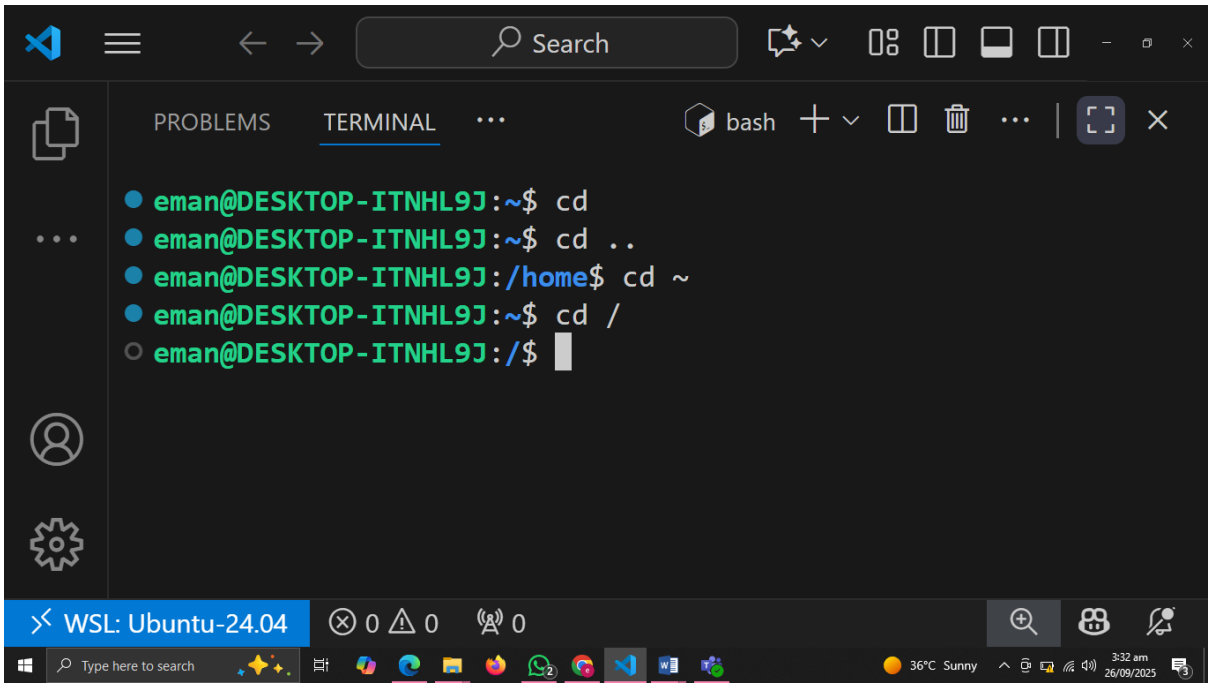
- ls -la



- ls -lh



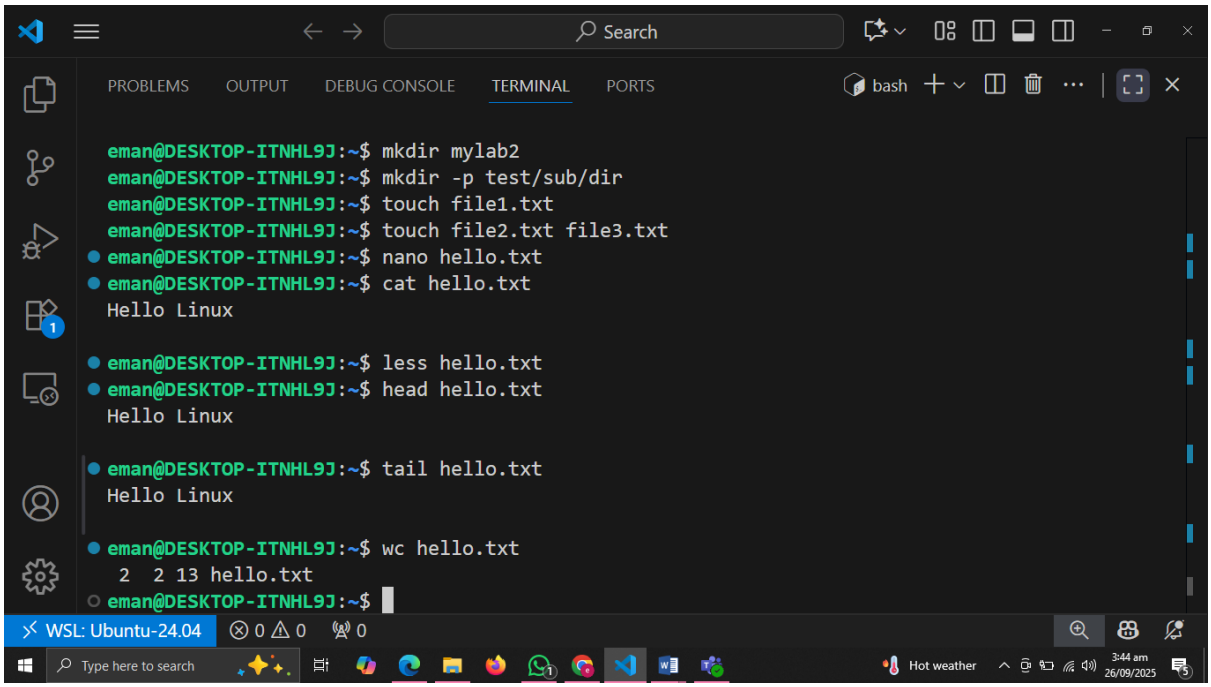
- cd
- cd . .
- cd ~
- cd /



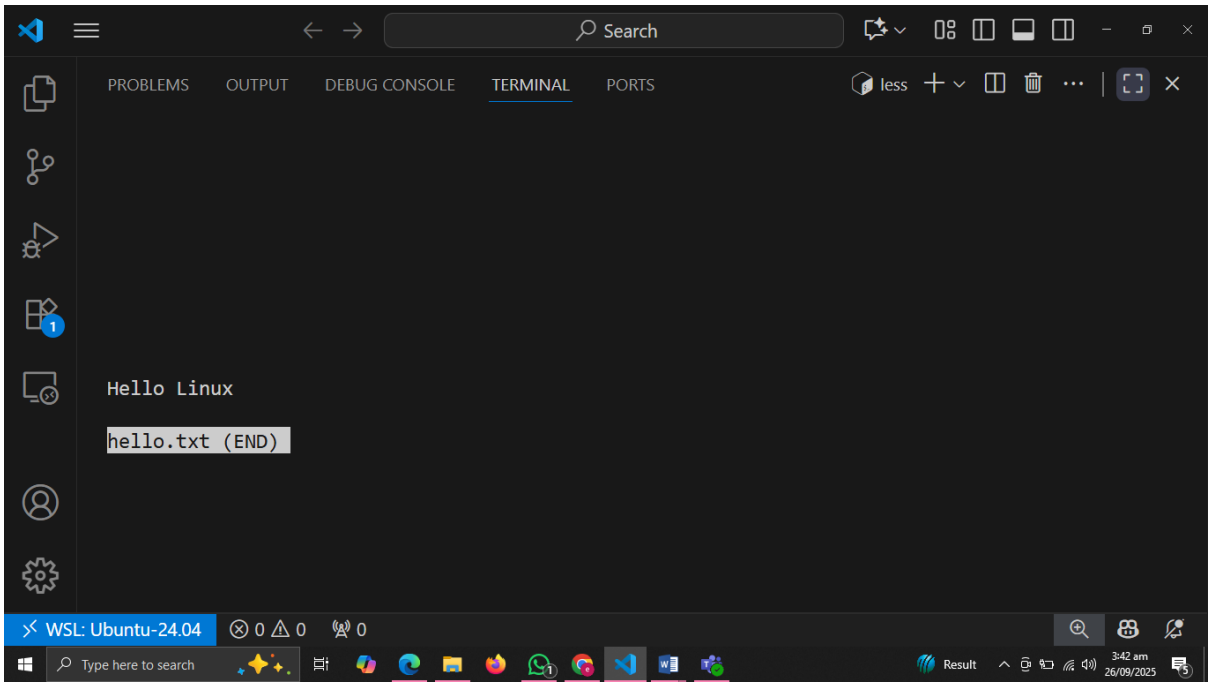
Part 3: File and Directory Operations

3.1 Creating and Managing Files/Directories

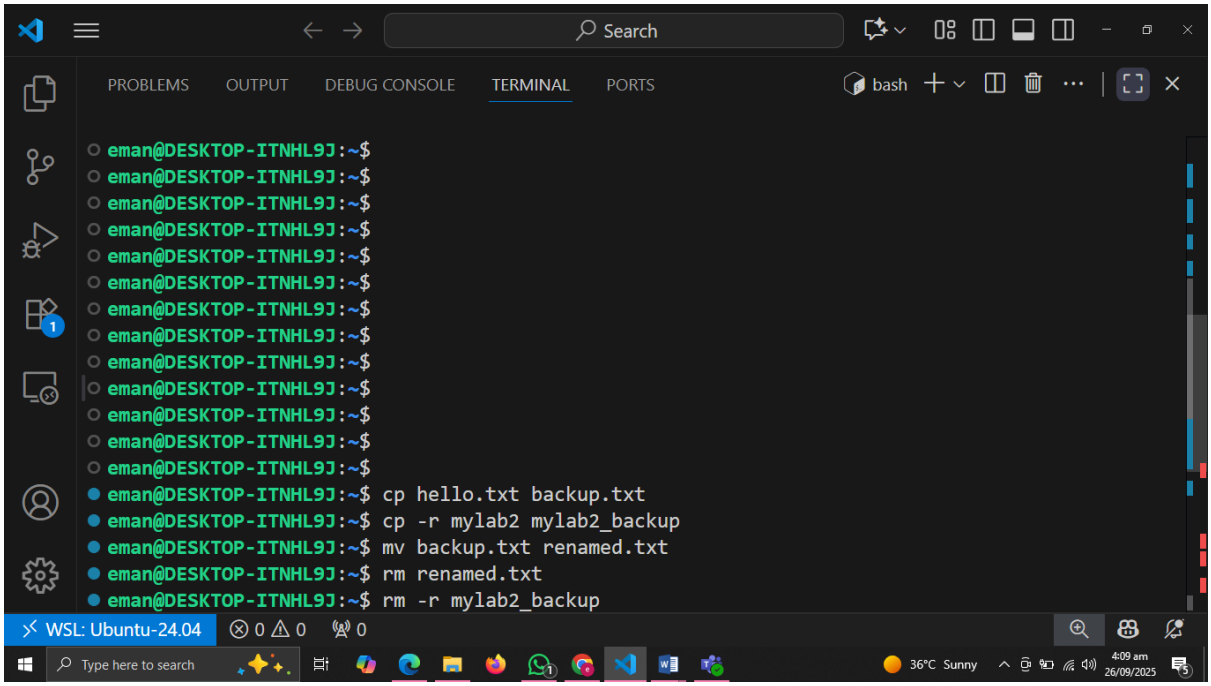
- mkdir
- touch
- nano
- echo
- cat
- less
- head
- tail
- wc



- **after entering less hello.txt command**



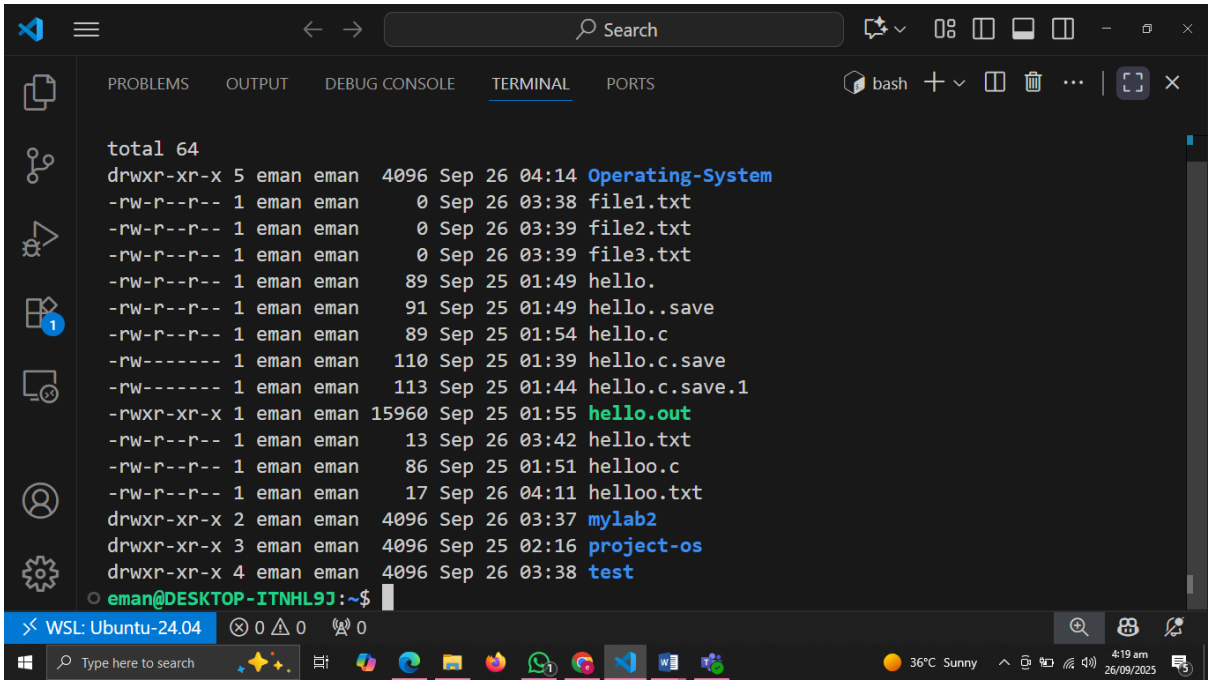
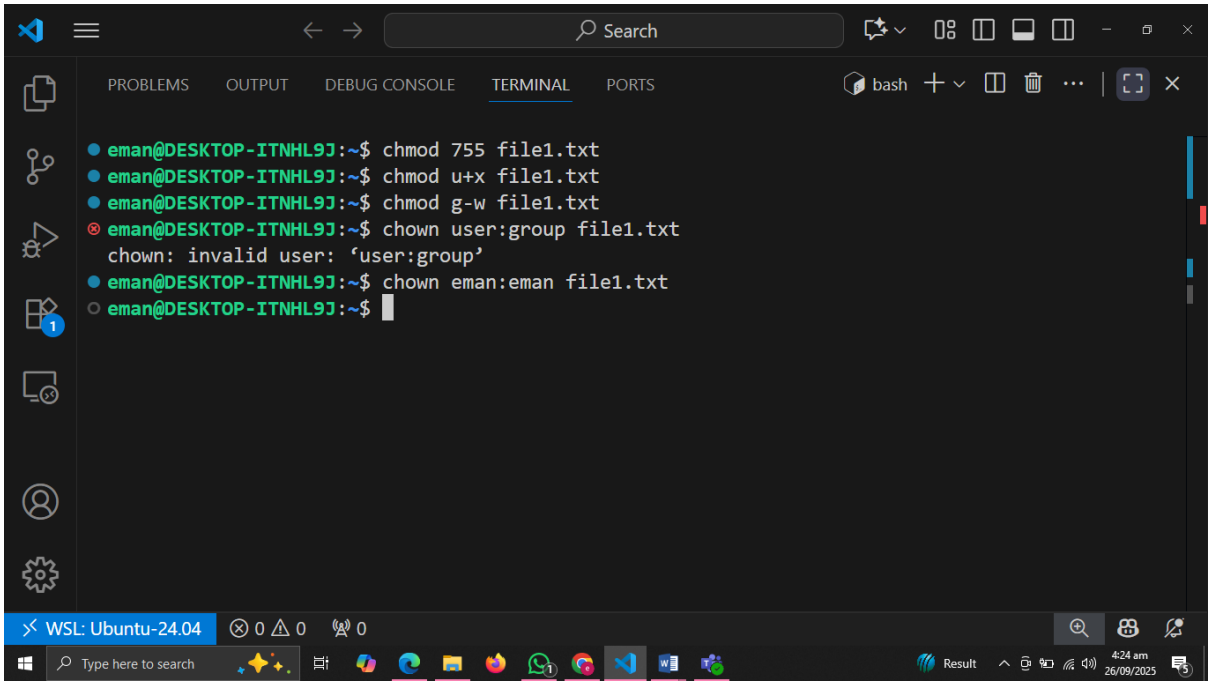
3.2 Copying, Moving, and Deleting



Part 4: File Permissions and Ownership

4.1 Understanding File Permissions

- ls -l



- chmod 755 file.txt
- chmod u+x file.txt
- chmod g-w file.txt
- group chown user:group file.txt