National Textile University

Department of Computer Science

Subject:

Operating System

Submitted to:

Sir Naseer

Submitted by:

Esha Mubashir Khan

Reg number:

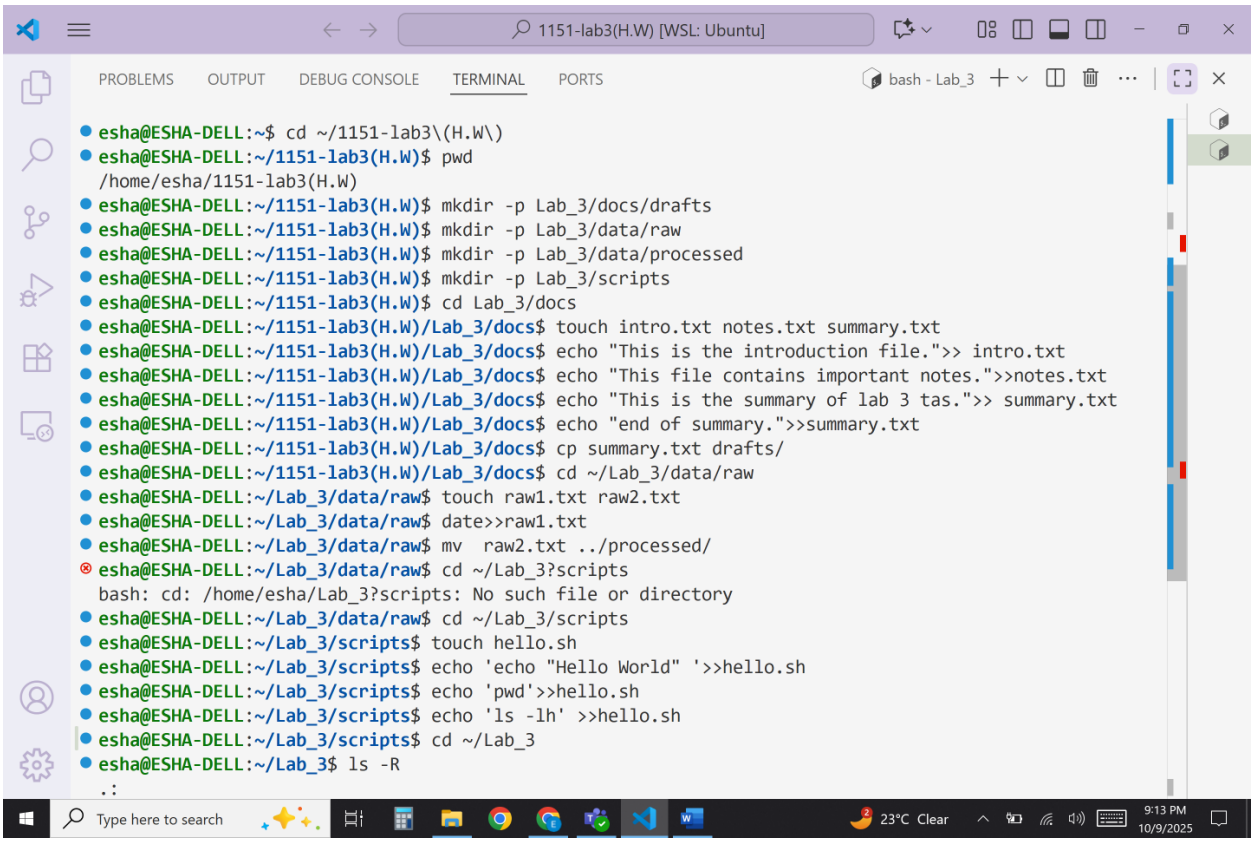
23-NTU-CS-1151

Lab no. :

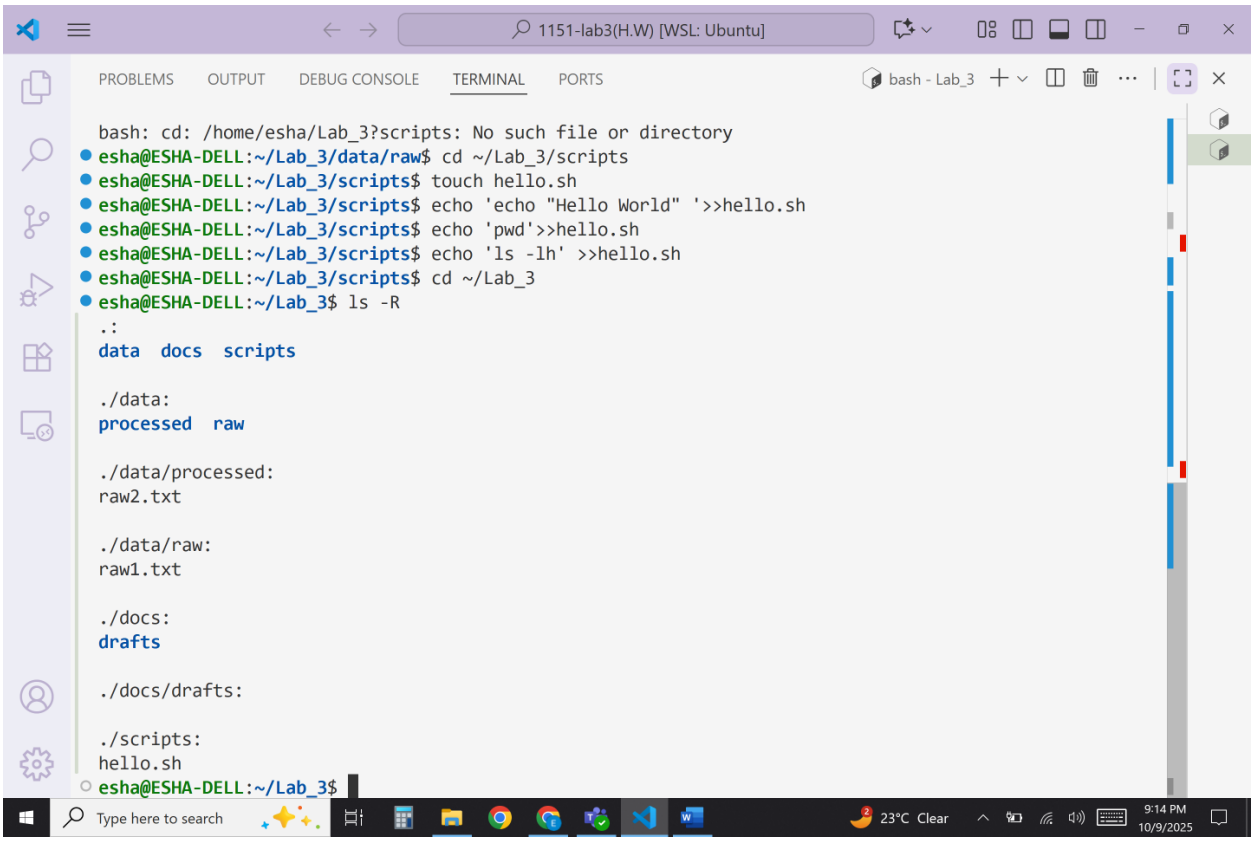
03 (home work)

Semester: 5Th

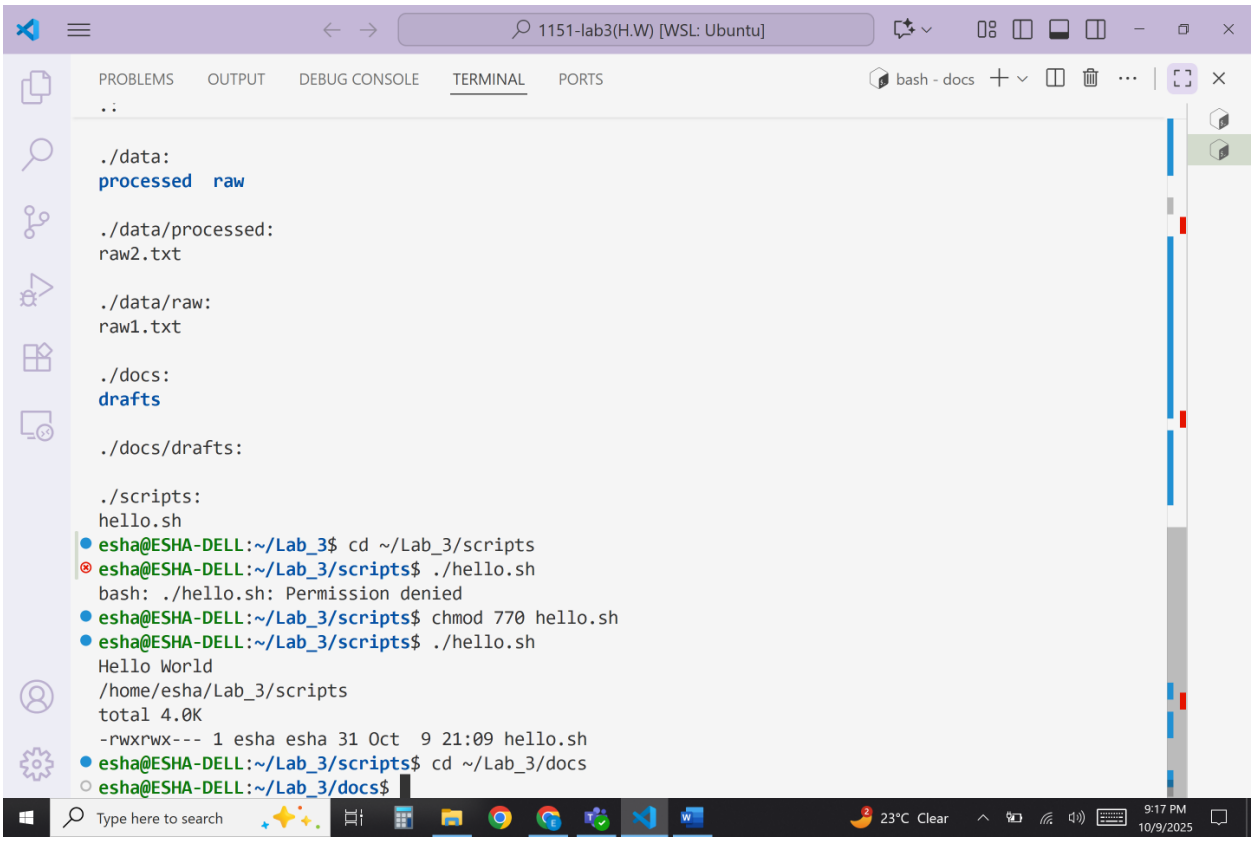
Part 1: File and Directory operations:

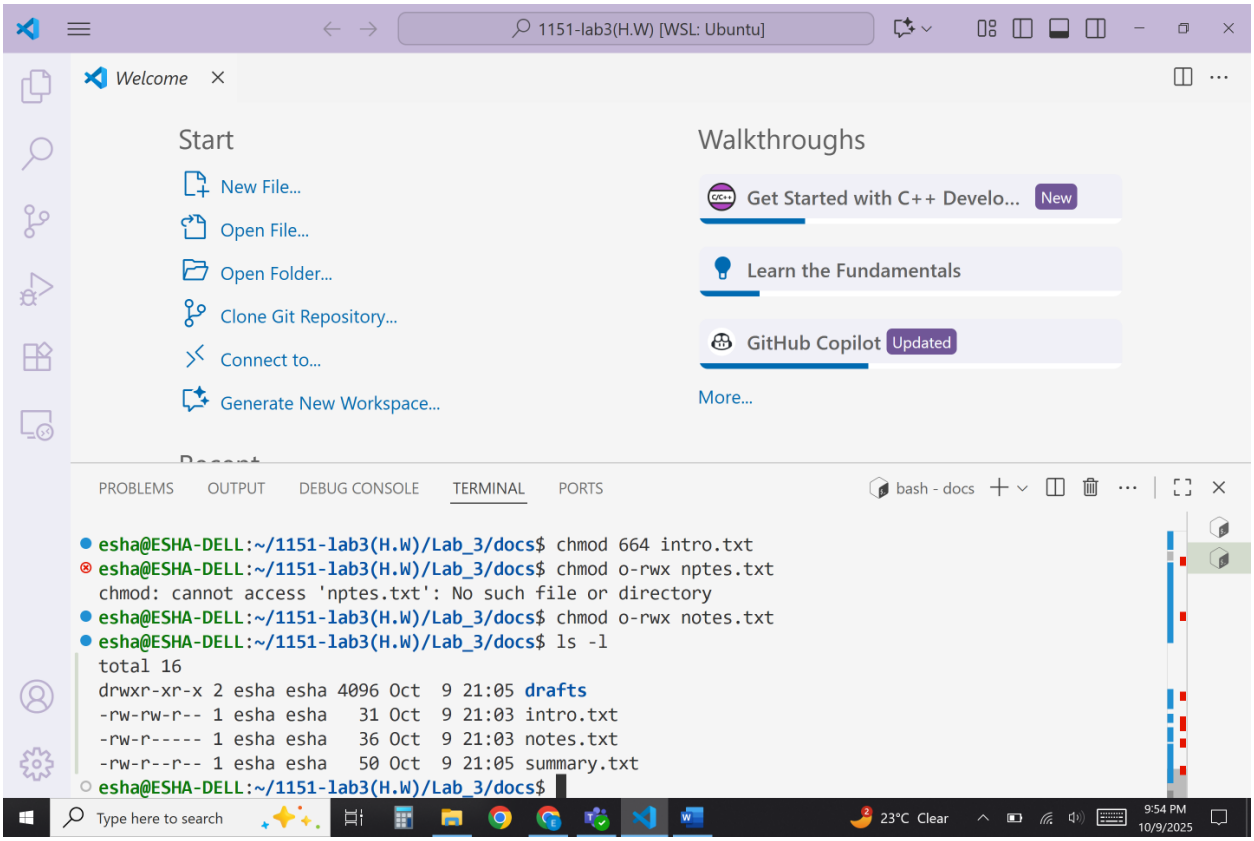


Part 2: Practice with basic:

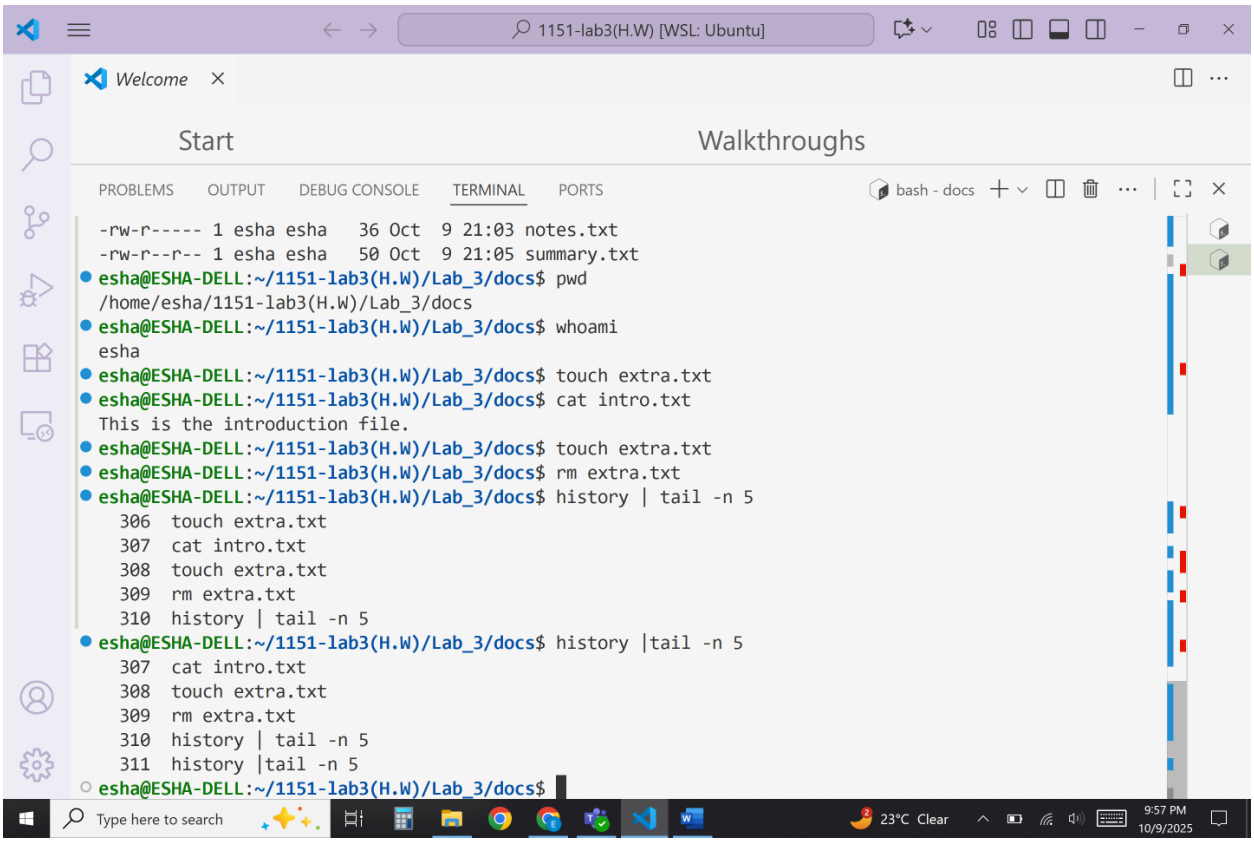


Part 3: Create permission and Ownership:

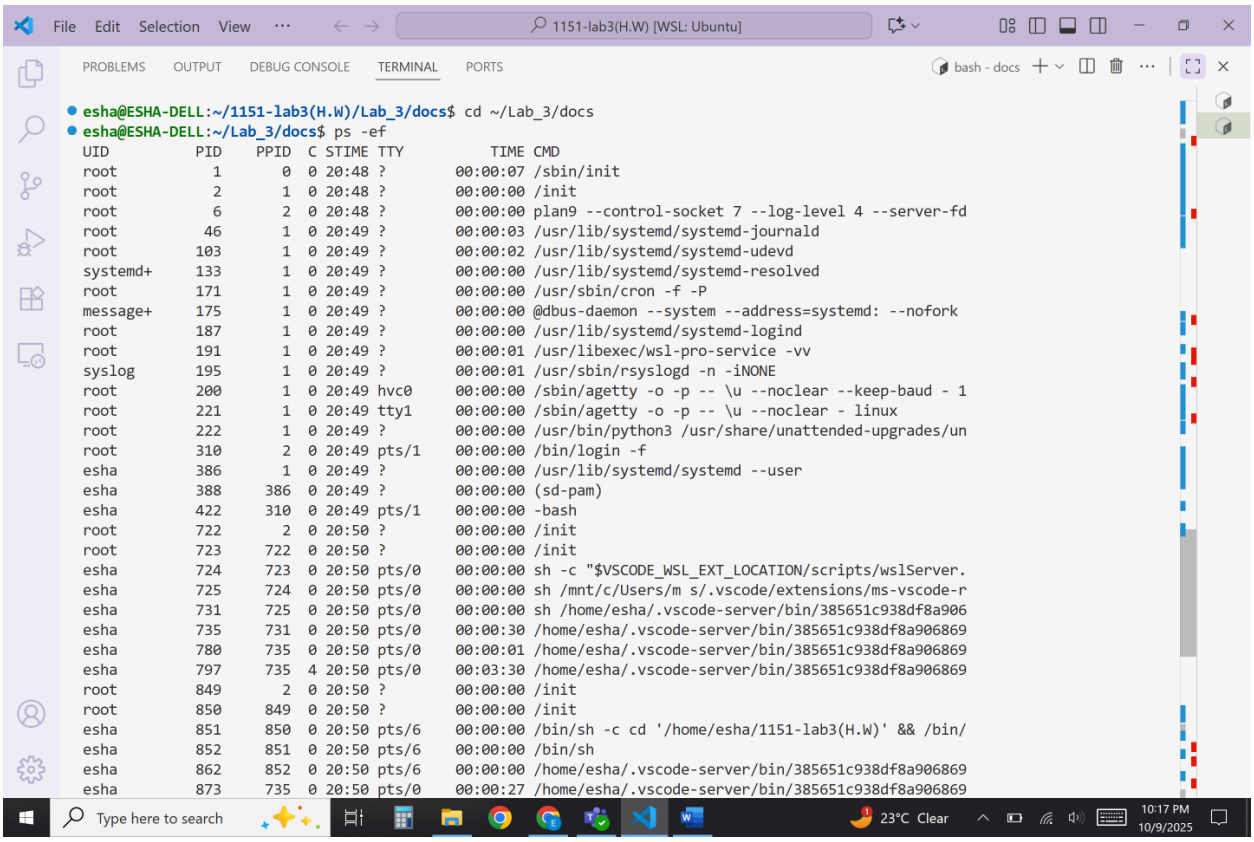

1151-lab3(H.W) [WSL: Ubuntu]
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
bash - docs
.:
./data:
processed raw
./data/processed:
raw2.txt
./data/raw:
raw1.txt
./docs:
drafts
./docs/drafts:
./scripts:
hello.sh
esha@ESHA-DELL:~/Lab_3$ cd ~/Lab_3/scripts
esha@ESHA-DELL:~/Lab_3/scripts$ ./hello.sh
bash: ./hello.sh: Permission denied
esha@ESHA-DELL:~/Lab_3/scripts$ chmod 770 hello.sh
esha@ESHA-DELL:~/Lab_3/scripts$ ./hello.sh
Hello World
/home/esha/Lab_3/scripts
total 4.0K
-rwxrwx--- 1 esha esha 31 Oct 9 21:09 hello.sh
esha@ESHA-DELL:~/Lab_3/scripts$ cd ~/Lab_3/docs
esha@ESHA-DELL:~/Lab_3/docs$
Type here to search
23°C Clear
9:17 PM
10/9/2025

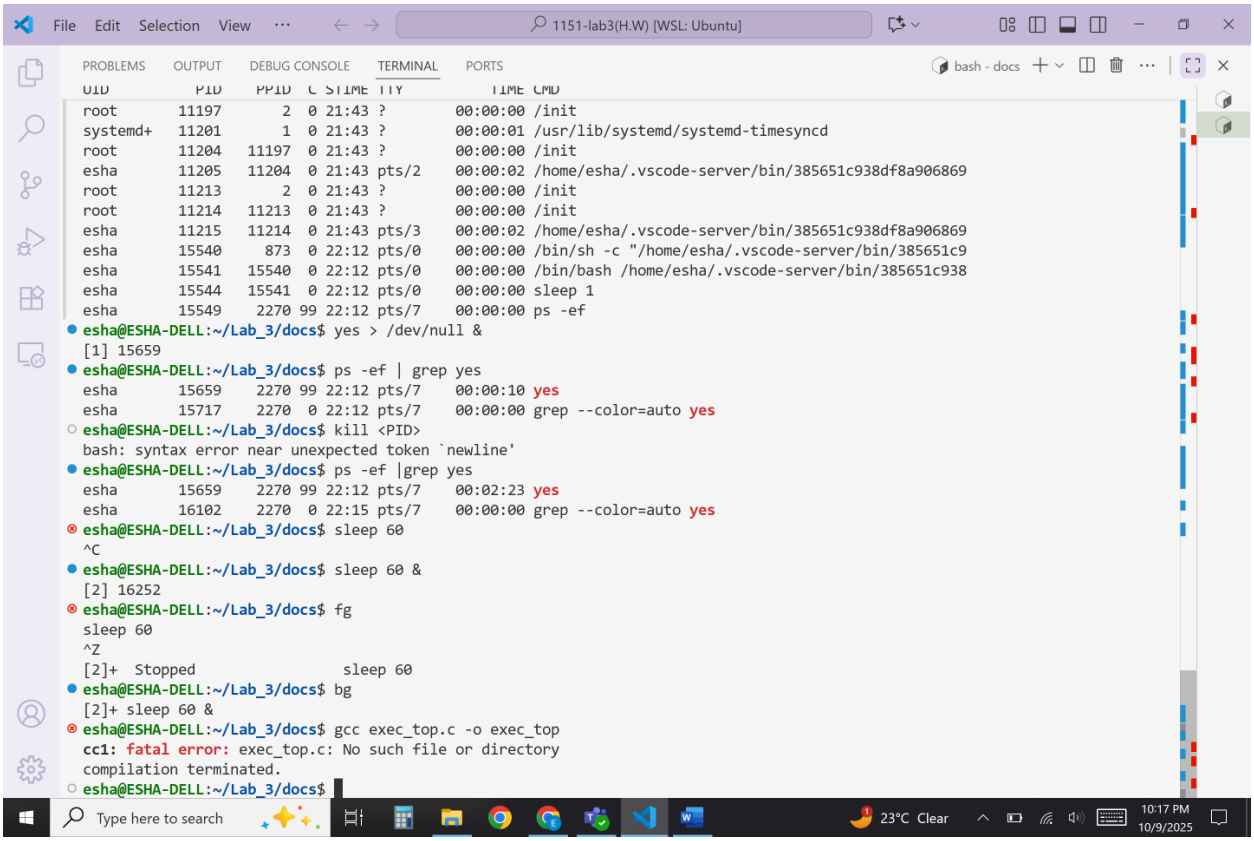

1151-lab3(H.W) [WSL: Ubuntu]
Welcome
Start
New File...
Open File...
Open Folder...
Clone Git Repository...
Connect to...
Generate New Workspace...
Walkthroughs
Get Started with C++ Develo... New
Learn the Fundamentals
GitHub Copilot Updated
More...
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
bash - docs
esha@ESHA-DELL:~/1151-lab3(H.W)/Lab_3/docs$ chmod 664 intro.txt
esha@ESHA-DELL:~/1151-lab3(H.W)/Lab_3/docs$ chmod o-rwx nptes.txt
chmod: cannot access 'nptes.txt': No such file or directory
esha@ESHA-DELL:~/1151-lab3(H.W)/Lab_3/docs$ chmod o-rwx notes.txt
esha@ESHA-DELL:~/1151-lab3(H.W)/Lab_3/docs$ ls -l
total 16
drwxr-xr-x 2 esha esha 4096 Oct 9 21:05 drafts
-rw-rw-r-- 1 esha esha 31 Oct 9 21:03 intro.txt
-rw-r----- 1 esha esha 36 Oct 9 21:03 notes.txt
-rw-r--r-- 1 esha esha 50 Oct 9 21:05 summary.txt
esha@ESHA-DELL:~/1151-lab3(H.W)/Lab_3/docs$
Type here to search
23°C Clear
9:54 PM
10/9/2025

Part 4: Reading and searching Files:



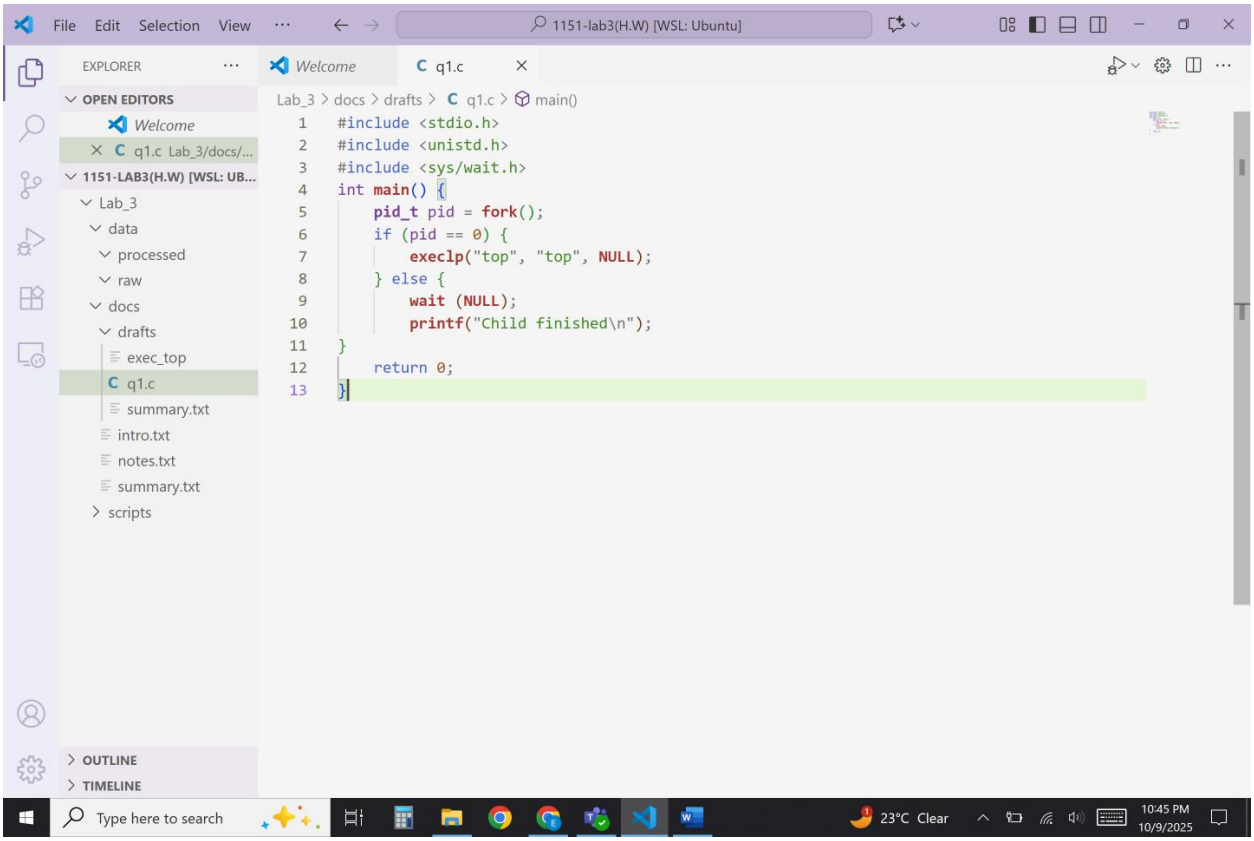
Part 5: Linux Process Commands

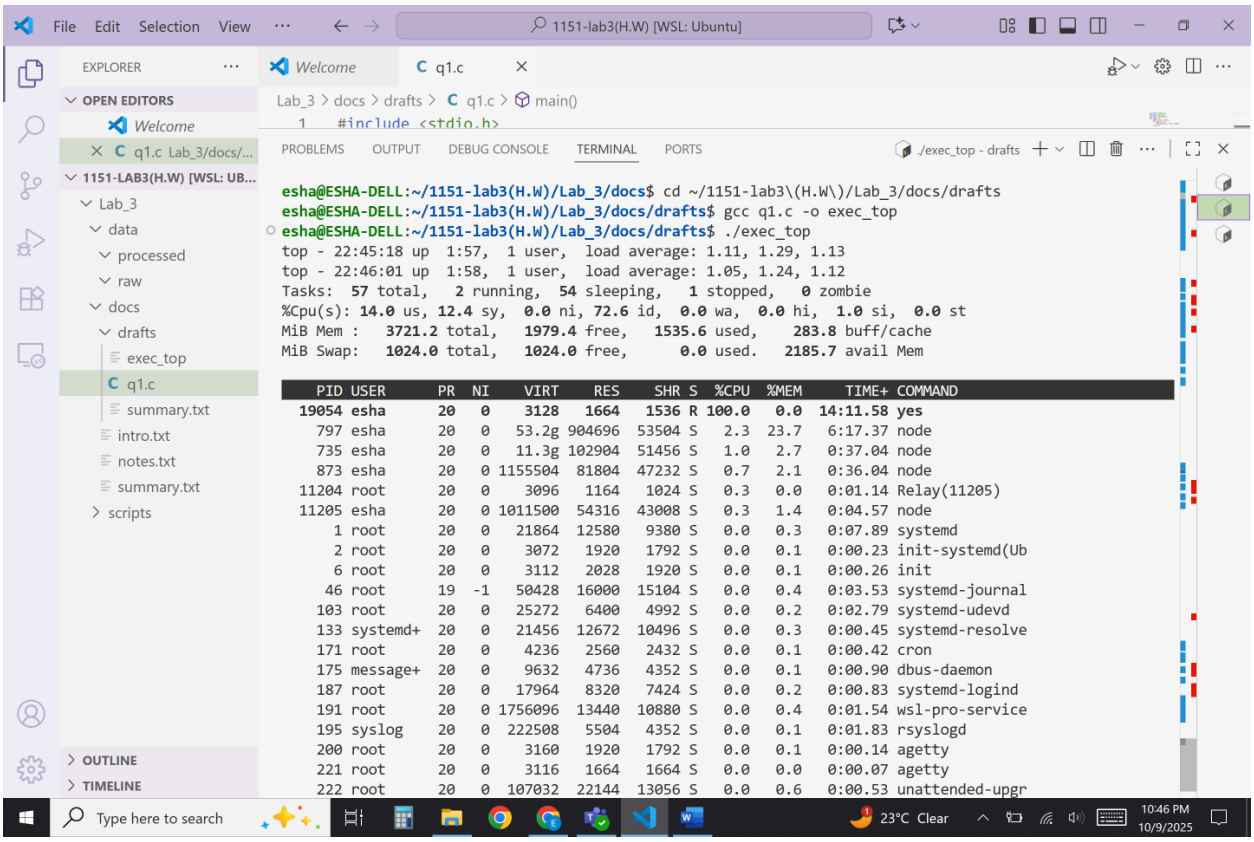

File Edit Selection View ···
1151-lab3(H.W) [WSL: Ubuntu]
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
bash - docs
esha@ESHA-DELL:~/1151-lab3(H.W)/Lab_3/docs$ cd ~/Lab_3/docs
esha@ESHA-DELL:~/Lab_3/docs$ ps -ef
UID PID PPID C STIME TTY TIME CMD
root 1 0 0 20:48 ? 00:00:07 /sbin/init
root 2 1 0 20:48 ? 00:00:00 /init
root 6 2 0 20:48 ? 00:00:00 plan9 --control-socket 7 --log-level 4 --server-fd
root 46 1 0 20:49 ? 00:00:03 /usr/lib/systemd/systemd-journald
root 103 1 0 20:49 ? 00:00:02 /usr/lib/systemd/systemd-udevd
systemd+ 133 1 0 20:49 ? 00:00:00 /usr/lib/systemd/systemd-resolved
root 171 1 0 20:49 ? 00:00:00 /usr/sbin/cron -f -P
message+ 175 1 0 20:49 ? 00:00:00 @dbus-daemon --system --address=systemd: --nofork
root 187 1 0 20:49 ? 00:00:00 /usr/lib/systemd/systemd-logind
root 191 1 0 20:49 ? 00:00:01 /usr/libexec/wsl-pro-service -vv
syslog 195 1 0 20:49 ? 00:00:01 /usr/sbin/rsyslogd -n -iNONE
root 200 1 0 20:49 hvc0 00:00:00 /sbin/agetty -o -p -- \u --noclear --keep-baud - 1
root 221 1 0 20:49 tty1 00:00:00 /sbin/agetty -o -p -- \u --noclear - linux
root 222 1 0 20:49 ? 00:00:00 /usr/bin/python3 /usr/share/unattended-upgrades/un
root 310 2 0 20:49 pts/1 00:00:00 /bin/login -f
esha 386 1 0 20:49 ? 00:00:00 /usr/lib/systemd/systemd --user
esha 388 386 0 20:49 ? 00:00:00 (sd-pam)
esha 422 310 0 20:49 pts/1 00:00:00 -bash
root 722 2 0 20:50 ? 00:00:00 /init
root 723 722 0 20:50 ? 00:00:00 /init
esha 724 723 0 20:50 pts/0 00:00:00 sh -c "$VSCODE_WSL_EXT_LOCATION/scripts/wslServer.
esha 725 724 0 20:50 pts/0 00:00:00 sh /mnt/c/Users/m s/.vscode/extensions/ms-vscode-r
esha 731 725 0 20:50 pts/0 00:00:00 sh /home/esha/.vscode-server/bin/385651c938df8a906
esha 735 731 0 20:50 pts/0 00:00:30 /home/esha/.vscode-server/bin/385651c938df8a906869
esha 780 735 0 20:50 pts/0 00:00:01 /home/esha/.vscode-server/bin/385651c938df8a906869
esha 797 735 4 20:50 pts/0 00:03:30 /home/esha/.vscode-server/bin/385651c938df8a906869
root 849 2 0 20:50 ? 00:00:00 /init
root 850 849 0 20:50 ? 00:00:00 /init
esha 851 850 0 20:50 pts/6 00:00:00 /bin/sh -c cd '/home/esha/1151-lab3(H.W)' && /bin/
esha 852 851 0 20:50 pts/6 00:00:00 /bin/sh
esha 862 852 0 20:50 pts/6 00:00:00 /home/esha/.vscode-server/bin/385651c938df8a906869
esha 873 735 0 20:50 pts/0 00:00:27 /home/esha/.vscode-server/bin/385651c938df8a906869
Type here to search
23°C Clear
10:17 PM
10/9/2025


File Edit Selection View ···
1151-lab3(H.W) [WSL: Ubuntu]
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
bash - docs
root 11197 2 0 21:43 ? 00:00:00 /init
systemd+ 11201 1 0 21:43 ? 00:00:01 /usr/lib/systemd/systemd-timesyncd
root 11204 11197 0 21:43 ? 00:00:00 /init
esha 11205 11204 0 21:43 pts/2 00:00:02 /home/esha/.vscode-server/bin/385651c938df8a906869
root 11213 2 0 21:43 ? 00:00:00 /init
root 11214 11213 0 21:43 ? 00:00:00 /init
esha 11215 11214 0 21:43 pts/3 00:00:02 /home/esha/.vscode-server/bin/385651c938df8a906869
esha 15540 873 0 22:12 pts/0 00:00:00 /bin/sh -c "/home/esha/.vscode-server/bin/385651c9
esha 15541 15540 0 22:12 pts/0 00:00:00 /bin/bash /home/esha/.vscode-server/bin/385651c938
esha 15544 15541 0 22:12 pts/0 00:00:00 sleep 1
esha 15549 2270 99 22:12 pts/7 00:00:00 ps -ef
esha@ESHA-DELL:~/Lab_3/docs$ yes > /dev/null &
[1] 15659
esha@ESHA-DELL:~/Lab_3/docs$ ps -ef | grep yes
esha 15659 2270 99 22:12 pts/7 00:00:10 yes
esha 15717 2270 0 22:12 pts/7 00:00:00 grep --color=auto yes
esha@ESHA-DELL:~/Lab_3/docs$ kill <PID>
bash: syntax error near unexpected token `newline'
esha@ESHA-DELL:~/Lab_3/docs$ ps -ef |grep yes
esha 15659 2270 99 22:12 pts/7 00:02:23 yes
esha 16102 2270 0 22:15 pts/7 00:00:00 grep --color=auto yes
esha@ESHA-DELL:~/Lab_3/docs$ sleep 60
^C
esha@ESHA-DELL:~/Lab_3/docs$ sleep 60 &
[2] 16252
esha@ESHA-DELL:~/Lab_3/docs$ fg
sleep 60
^Z
[2]+ Stopped sleep 60
esha@ESHA-DELL:~/Lab_3/docs$ bg
[2]+ sleep 60 &
esha@ESHA-DELL:~/Lab_3/docs$ gcc exec_top.c -o exec_top
cc1: fatal error: exec_top.c: No such file or directory
compilation terminated.
esha@ESHA-DELL:~/Lab_3/docs$
Type here to search
23°C Clear
10:17 PM
10/9/2025

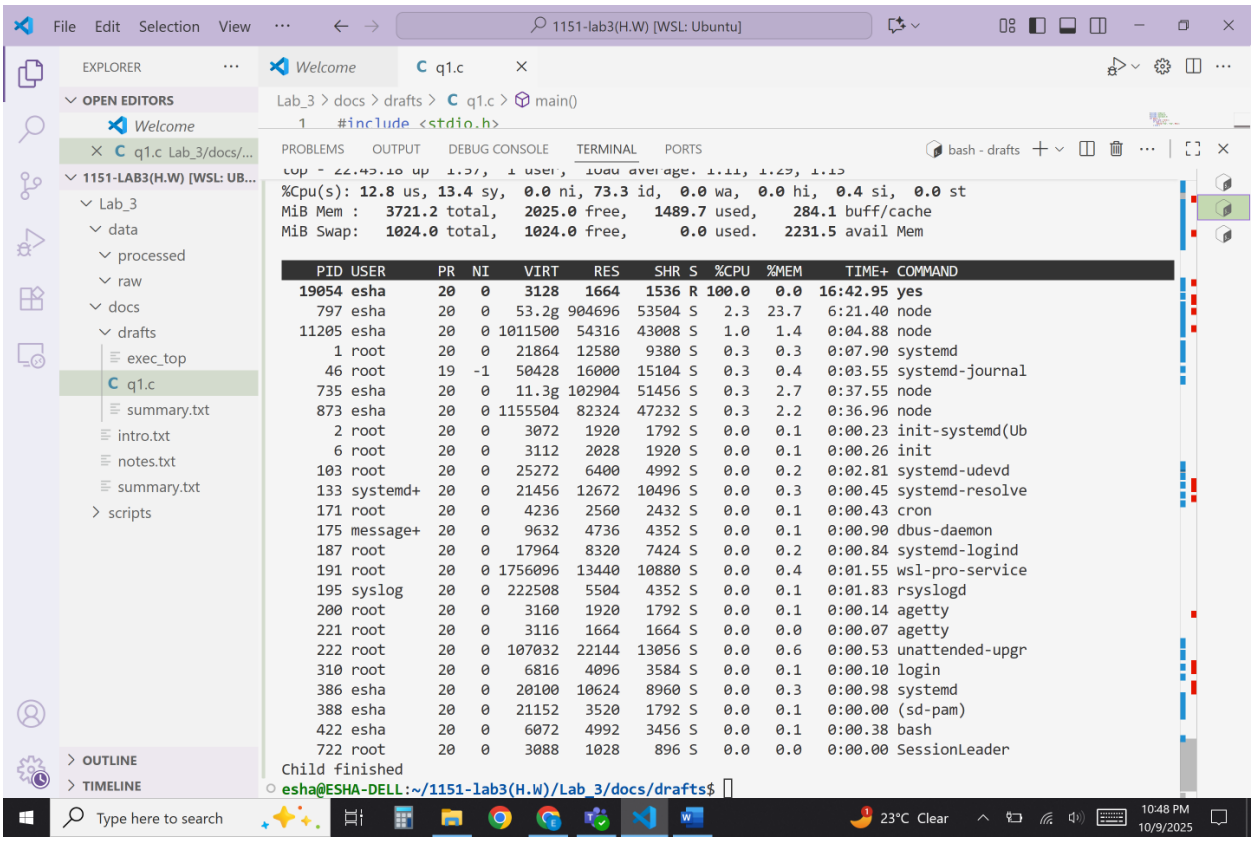
Part 6: Program on program

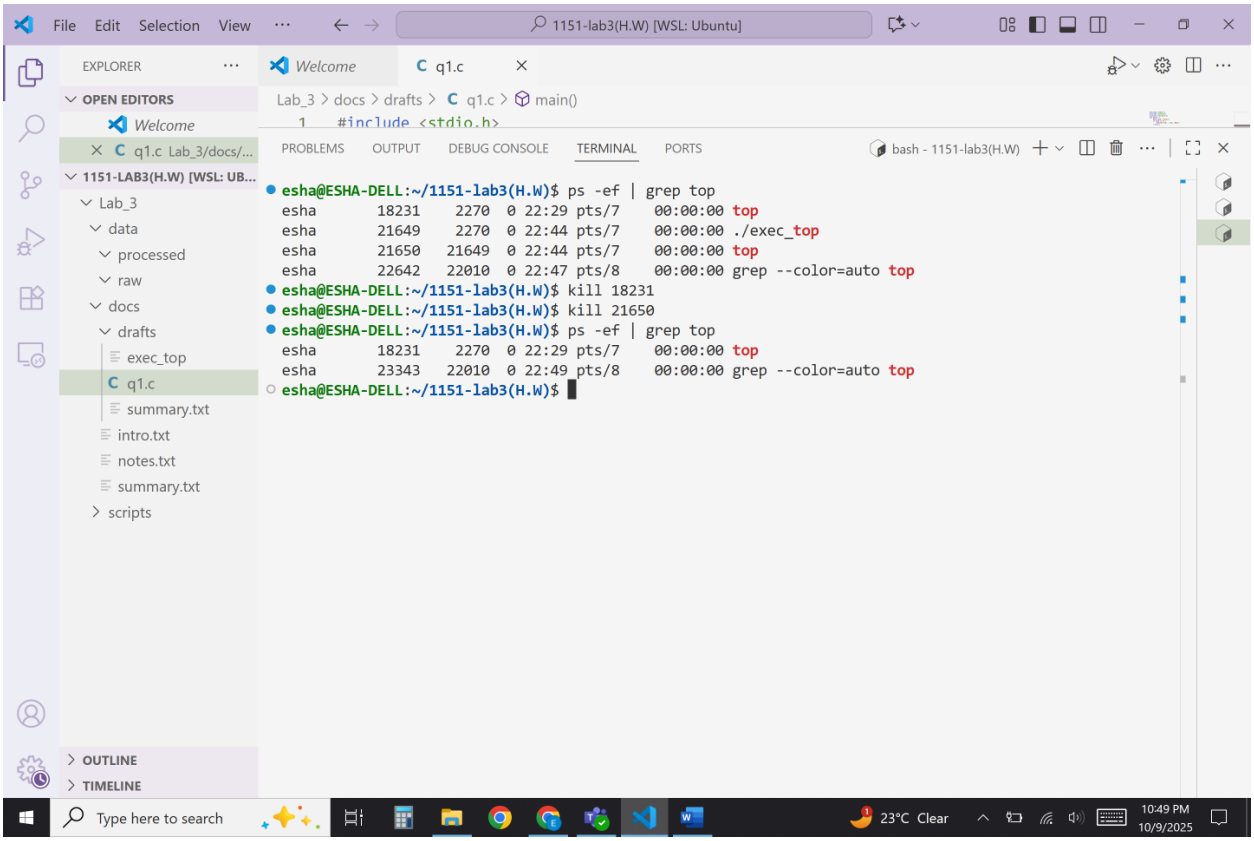
1.Program with exec_top.c:





2: Incomplete Program:


File Edit Selection View
1151-lab3(H.W) [WSL: Ubuntu]
EXPLORER
OPEN EDITORS
Welcome
q1.c Lab_3/docs/...
1151-LAB3(H.W) [WSL: UB...
Lab_3
data
processed
raw
docs
drafts
exec_top
q1.c
summary.txt
intro.txt
notes.txt
summary.txt
scripts
OUTLINE
TIMELINE
Welcome
q1.c
Lab_3 > docs > drafts > C q1.c > main()
1 #include <stdio.h>
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
bash - drafts
%Cpu(s): 12.8 us, 13.4 sy, 0.0 ni, 73.3 id, 0.0 wa, 0.0 hi, 0.4 si, 0.0 st
MiB Mem : 3721.2 total, 2025.0 free, 1489.7 used, 284.1 buff/cache
MiB Swap: 1024.0 total, 1024.0 free, 0.0 used. 2231.5 avail Mem
PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND
19054 esha 20 0 3128 1664 1536 R 100.0 0.0 16:42.95 yes
797 esha 20 0 53.2g 904696 53504 S 2.3 23.7 6:21.40 node
11205 esha 20 0 1011500 54316 43008 S 1.0 1.4 0:04.88 node
1 root 20 0 21864 12580 9380 S 0.3 0.3 0:07.90 systemd
46 root 19 -1 50428 16000 15104 S 0.3 0.4 0:03.55 systemd-journal
735 esha 20 0 11.3g 102904 51456 S 0.3 2.7 0:37.55 node
873 esha 20 0 1155504 82324 47232 S 0.3 2.2 0:36.96 node
2 root 20 0 3072 1920 1792 S 0.0 0.1 0:00.23 init-systemd(Ub
6 root 20 0 3112 2028 1920 S 0.0 0.1 0:00.26 init
103 root 20 0 25272 6400 4992 S 0.0 0.2 0:02.81 systemd-udevd
133 systemd+ 20 0 21456 12672 10496 S 0.0 0.3 0:00.45 systemd-resolve
171 root 20 0 4236 2560 2432 S 0.0 0.1 0:00.43 cron
175 message+ 20 0 9632 4736 4352 S 0.0 0.1 0:00.90 dbus-daemon
187 root 20 0 17964 8320 7424 S 0.0 0.2 0:00.84 systemd-logind
191 root 20 0 1756096 13440 10880 S 0.0 0.4 0:01.55 wsl-pro-service
195 syslog 20 0 222508 5504 4352 S 0.0 0.1 0:01.83 rsyslogd
200 root 20 0 3160 1920 1792 S 0.0 0.1 0:00.14 agetty
221 root 20 0 3116 1664 1664 S 0.0 0.0 0:00.07 agetty
222 root 20 0 107032 22144 13056 S 0.0 0.6 0:00.53 unattended-upgr
310 root 20 0 6816 4096 3584 S 0.0 0.1 0:00.10 login
386 esha 20 0 20100 10624 8960 S 0.0 0.3 0:00.98 systemd
388 esha 20 0 21152 3520 1792 S 0.0 0.1 0:00.00 (sd-pam)
422 esha 20 0 6072 4992 3456 S 0.0 0.1 0:00.38 bash
722 root 20 0 3088 1028 896 S 0.0 0.0 0:00.00 SessionLeader
Child finished
esha@ESHA-DELL:~/1151-lab3(H.W)/Lab_3/docs/drafts$
Type here to search
23°C Clear
10:48 PM
10/9/2025


File Edit Selection View
1151-lab3(H.W) [WSL: Ubuntu]
EXPLORER
OPEN EDITORS
Welcome
q1.c Lab_3/docs/...
1151-LAB3(H.W) [WSL: UB...
Lab_3
data
processed
raw
docs
drafts
exec_top
q1.c
summary.txt
intro.txt
notes.txt
summary.txt
scripts
OUTLINE
TIMELINE
Welcome
q1.c
Lab_3 > docs > drafts > C q1.c > main()
1 #include <stdio.h>
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
bash - 1151-lab3(H.W)
esha@ESHA-DELL:~/1151-lab3(H.W)$ ps -ef | grep top
esha 18231 2270 0 22:29 pts/7 00:00:00 top
esha 21649 2270 0 22:44 pts/7 00:00:00 ./exec_top
esha 21650 21649 0 22:44 pts/7 00:00:00 top
esha 22642 22010 0 22:47 pts/8 00:00:00 grep --color=auto top
esha@ESHA-DELL:~/1151-lab3(H.W)$ kill 18231
esha@ESHA-DELL:~/1151-lab3(H.W)$ kill 21650
esha@ESHA-DELL:~/1151-lab3(H.W)$ ps -ef | grep top
esha 18231 2270 0 22:29 pts/7 00:00:00 top
esha 23343 22010 0 22:49 pts/8 00:00:00 grep --color=auto top
esha@ESHA-DELL:~/1151-lab3(H.W)$
Type here to search
23°C Clear
10:49 PM
10/9/2025