



National Textile University

Department of Computer Science

Subject:

Operating system

Submitted To:

Sir Nasir

Submitted By:

Noor Ul Ain

Registration No:

23-NTU-CS-1221

Lab No:

3 (hometask)

Semester:

Task 1:

Code:

```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>

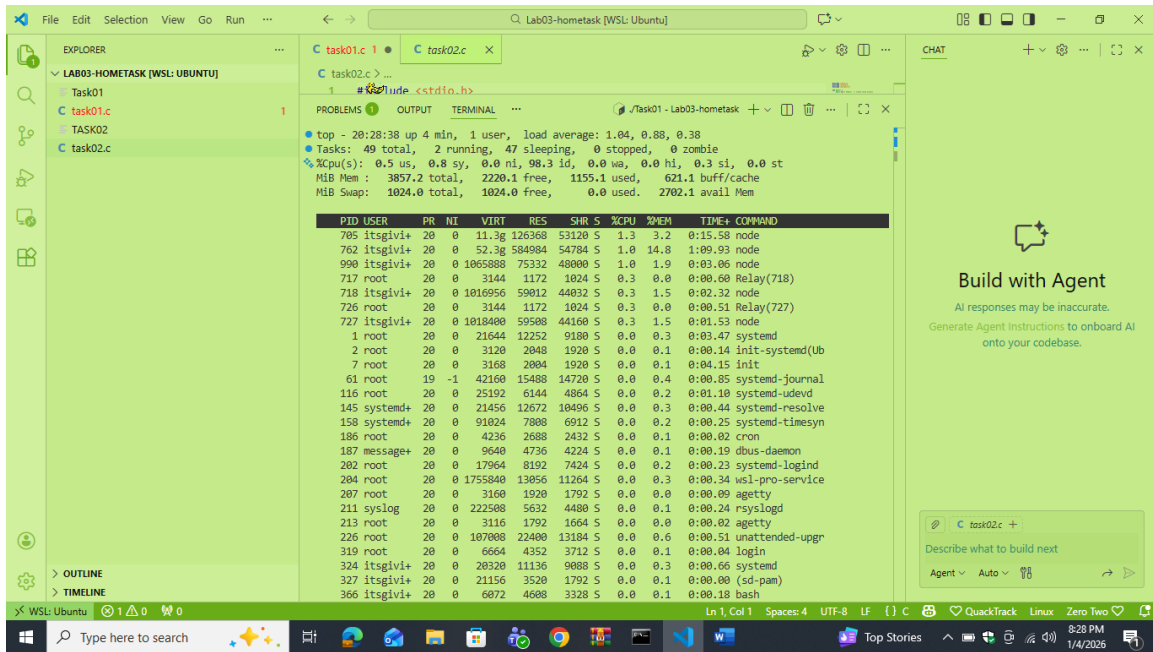
int main() {
    pid_t pid;

    pid = fork();

    if (pid < 0) {
        perror("fork failed");
        exit(1);
    }
    else if (pid == 0) {
        printf("Child process (PID: %d) running top...\n", getpid());
        execlp("top", "top", NULL);
        perror("execlp failed");
    }
    else {
        printf("Parent process (PID: %d) created child with PID: %d\n",
getpid(), pid);
        sleep(60);
        printf("Parent process finished.\n");
    }

    return 0;
}
```

Output:



Task 2:

```
#include <stdio.h>
#include <unistd.h>
#include <sys/wait.h>

int main() {
    pid_t pid = fork(); // create child process

    if (pid < 0) {
        perror("fork failed");
        return 1;
    }
    else if (pid == 0) {
        // Child process
        printf("Child (PID: %d) running date command...\n", getpid());
        execlp("date", "date", NULL); // replace process with date
        // command
        perror("execlp failed"); // runs only if exec fails
    }
    else {
        // Parent process
        printf("Parent (PID: %d) waiting for child (PID: %d)...\n",
            getpid(), pid);
        wait(NULL); // wait for child to finish
    }
}
```

```

        printf("Child finished.\n");
    }

    return 0;
}

```

Output:

Visual Studio Code interface showing the execution of a C program using `fork()`.

Explorer: LAB03-HOMETASK [WSL: UBUNTU] contains Task01, task01.c, TASK02, and task02.c.

Editor: task02.c

```

1 #include <stdio.h>
2 #include <unistd.h>
3 #include <sys/wait.h>
4
5 int main() {
6     pid_t pid = fork(); // create child process
7
8     if (pid < 0) {
9         perror("fork failed");
10        return 1;
11    }
12
13    if (pid == 0) {
14        // Child process
15        date;
16    } else {
17        // Parent process
18        wait(&pid);
19    }
20
21    printf("Child finished.\n");
22
23    return 0;
24 }

```

Terminal:

```

itsgivingtech@DESKTOP-65N72IV:~/OperatingSystemLabs/Lab03-hometask$ ./TASK02
Parent (PID: 1573) waiting for child (PID: 1574)...
Child (PID: 1574) running date command...
Sun Jan  4 20:29:25 PKT 2026
Child finished.
itsgivingtech@DESKTOP-65N72IV:~/OperatingSystemLabs/Lab03-hometask$

```

Chat: Build with Agent. AI responses may be inaccurate. Generate Agent instructions to onboard AI onto your codebase.

Bottom Bar: WSL: Ubuntu, 1 file, 0 errors, 0 warnings. Ln 27, Col 1 (693 selected). Spaces: 4. UTF-8. LF. C. QuackTrack. Linux. Zero Two. 8:29 PM 1/4/2026.