

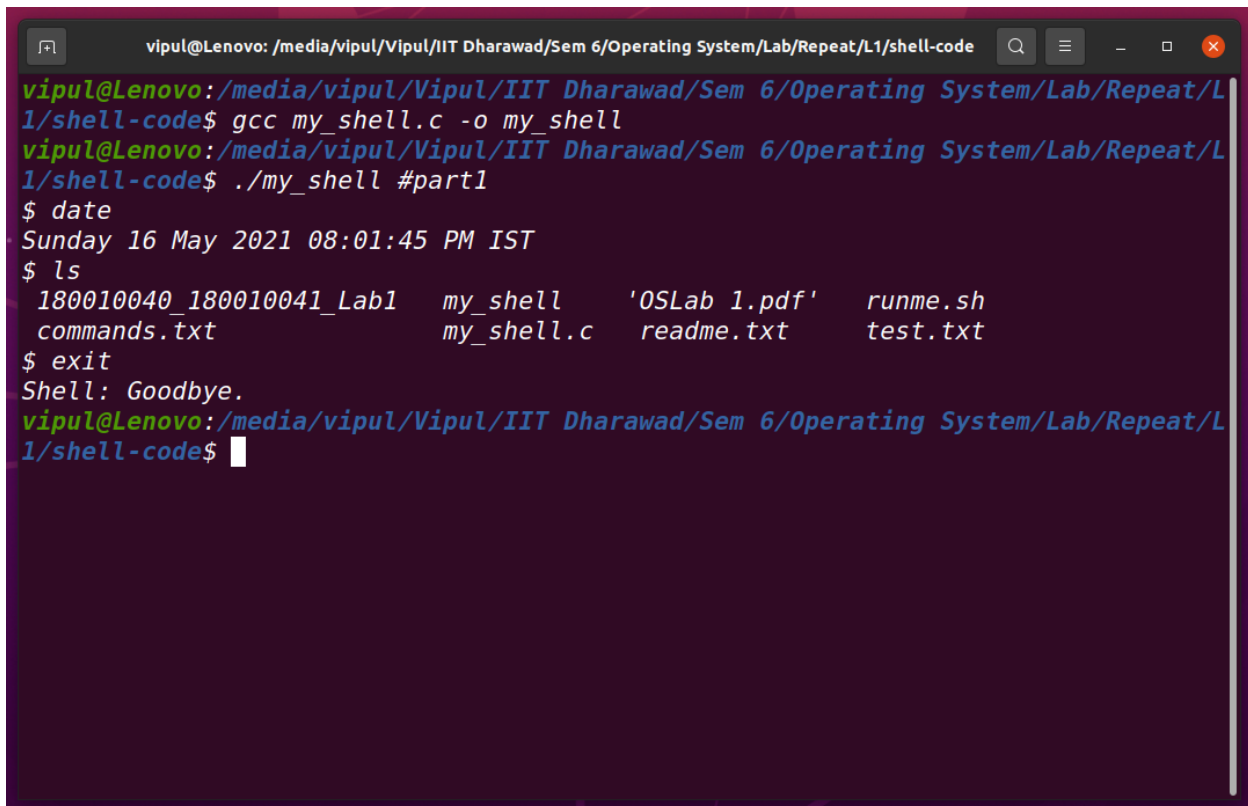
OS Lab

Lab 1 Report

Vibhuti Raman 180010040
Vipul Nikam 180010041

Here is the output for the program after running it.

Part 1

A screenshot of a terminal window with a dark purple background. The window title is "vipul@Lenovo: /media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code". The terminal shows the following commands and output:

```
vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code$ gcc my_shell.c -o my_shell
vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code$ ./my_shell #part1
$ date
Sunday 16 May 2021 08:01:45 PM IST
$ ls
180010040_180010041_Lab1  my_shell  'OSLab 1.pdf'  runme.sh
commands.txt             my_shell.c  readme.txt     test.txt
$ exit
Shell: Goodbye.
vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code$
```

Commands:

```
gcc my_shell.c -o my_shell
./my_shell
date
ls
```

To test part 1 we have run the following commands, output for which can be seen in the above image.

Part 2

```
sleep 10 &
ls
$ $ 180010040_180010041_Lab1 my_shellA   readme.txt
commands.txt                my_shellA.c  runme.sh
my_shell                    my_shell.c  test.txt
$ Shell: Background process finished
^Z
[23]+  Stopped                  ./my_shell
vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/
b/Repeat/L1/shell-code$
```

Commands:

```
gcc my_shell.c -o my_shell
./my_shell
sleep 10 &
PwD
```

For part 2 we have run 'sleep 10 &' and pwd command. And we got the desired output as can be seen in the above image. Here program is running in background

Part 3 & 4

```
vipul@Lenovo: /media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code
vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code$ gcc my_shell.c -o my_shell
vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code$ ./my_shell #part3
$ date && sleep 5 && date
Sunday 16 May 2021 08:02:49 PM IST
Sunday 16 May 2021 08:02:54 PM IST
$ exit
Shell: Goodbye.
vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code$ ./my_shell #part4
$ pwd &&& sleep 10 &&& ls
/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code
180010040_180010041_Lab1  my_shell  'OSLab 1.pdf'  runme.sh
commands.txt            my_shell.c  readme.txt     test.txt
$
```

Commands:

```
gcc my_shell.c -o my_shell
```

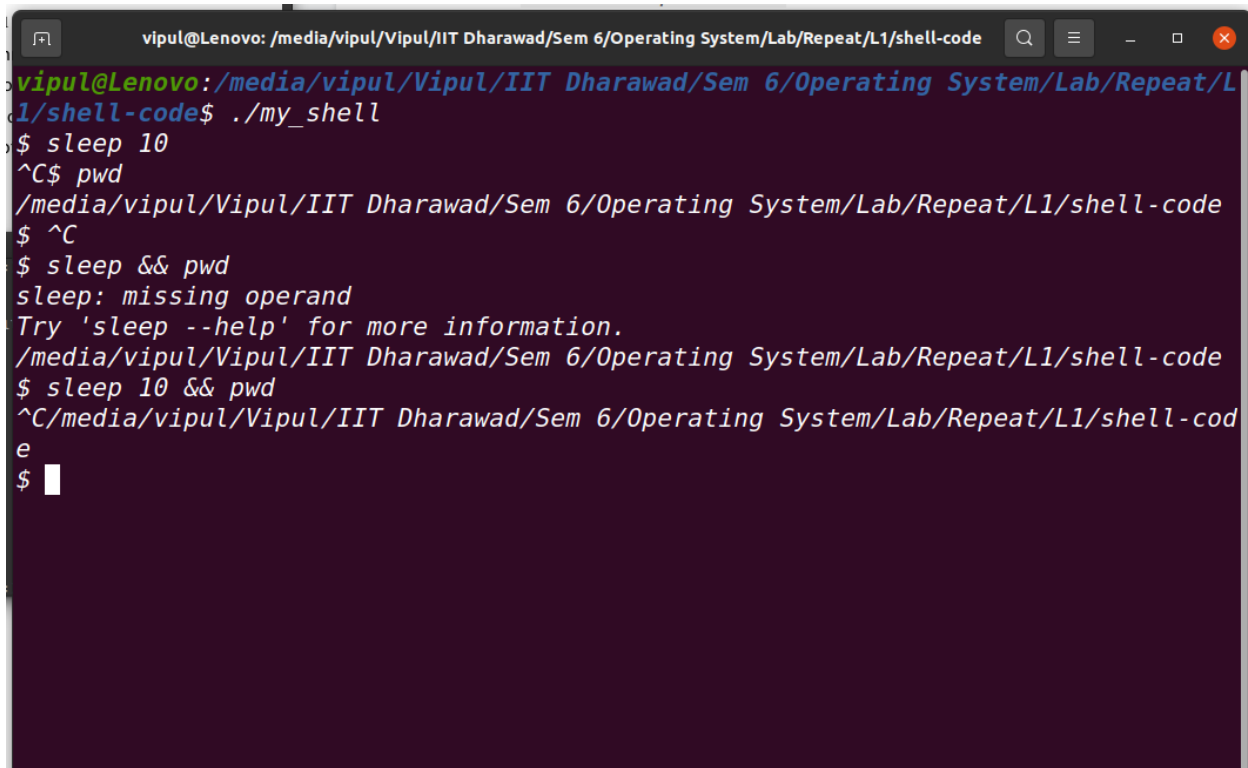
```
./my_shell #part3
```

```
Date && sleep 5 && date
```

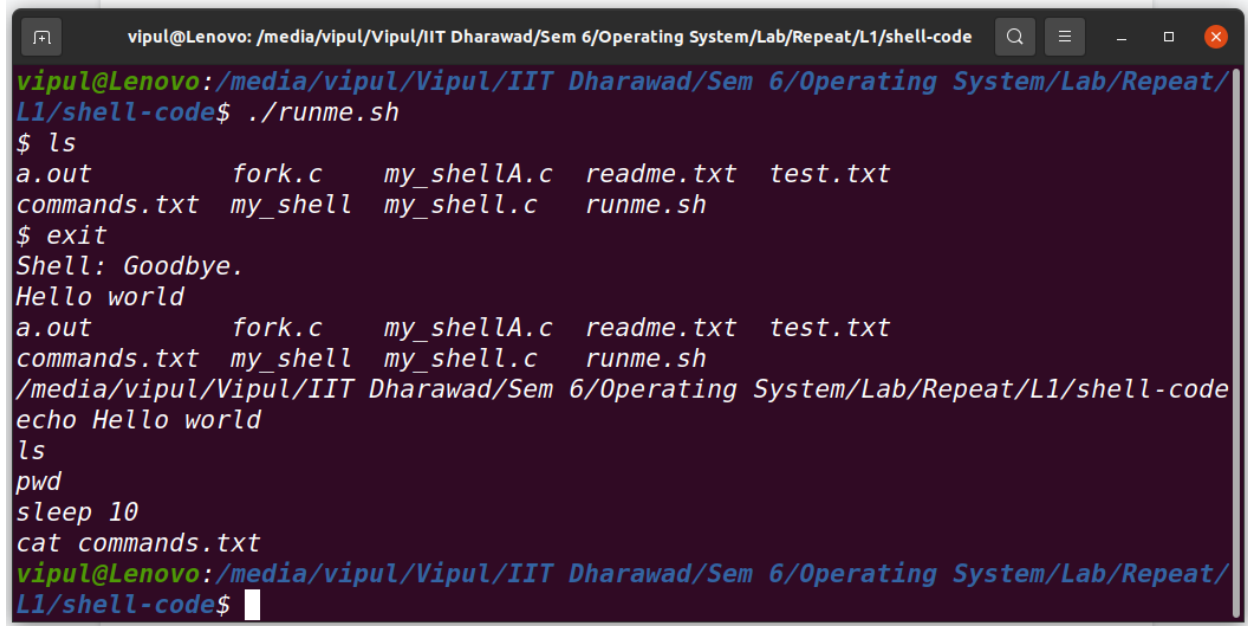
```
./my_shell #part4
```

```
Pwd &&& sleep 10 &&& ls
```

We tested the part 3 and 4 by running above commands output for which can be seen above. Here we have tested (ctrl+c) to terminate the program. As we can see, command stops when we press ctrl + c (C[^]) for part 4. For part 3 we can see the serial execution of the program. And in part 4 we can see the parallel execution of the program.

A terminal window screenshot with a dark purple background. The title bar shows the path: vipul@Lenovo: /media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code. The terminal shows the following sequence of commands and outputs:
1. `vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code$./my_shell`
2. `$ sleep 10`
3. `^C$ pwd`
4. `/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code`
5. `$ ^C`
6. `$ sleep && pwd`
7. `sleep: missing operand`
8. `Try 'sleep --help' for more information.`
9. `/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code`
10. `$ sleep 10 && pwd`
11. `^C/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-cod`
12. `e`
13. `$` (with a cursor)

Commandes are written in runme.sh to run all the things together. So you can run runme.sh and get the same output as can be seen below.

A terminal window titled 'vipul@Lenovo: /media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code'. The prompt is 'vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code\$'. The user enters './runme.sh'. The script outputs: '\$ ls' followed by a list of files: 'a.out', 'fork.c', 'my_shellA.c', 'readme.txt', 'test.txt', 'commands.txt', 'my_shell', 'my_shell.c', and 'runme.sh'. Then '\$ exit' is entered, followed by 'Shell: Goodbye.' and 'Hello world'. The script then repeats the file listing and directory path. Finally, it executes 'echo Hello world', 'ls', 'pwd', 'sleep 10', and 'cat commands.txt'. The terminal ends with the prompt 'vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code\$' and a cursor.

```
vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code$ ./runme.sh
$ ls
a.out      fork.c    my_shellA.c  readme.txt  test.txt
commands.txt my_shell  my_shell.c   runme.sh
$ exit
Shell: Goodbye.
Hello world
a.out      fork.c    my_shellA.c  readme.txt  test.txt
commands.txt my_shell  my_shell.c   runme.sh
/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code
echo Hello world
ls
pwd
sleep 10
cat commands.txt
vipul@Lenovo:/media/vipul/Vipul/IIT Dharawad/Sem 6/Operating System/Lab/Repeat/L1/shell-code$
```

Command:

```
./runme.sh
```

As we can see in both the output, ls command is giving the desired output that is files in the current folder. Even pwd is giving correct output which is location.

XXX