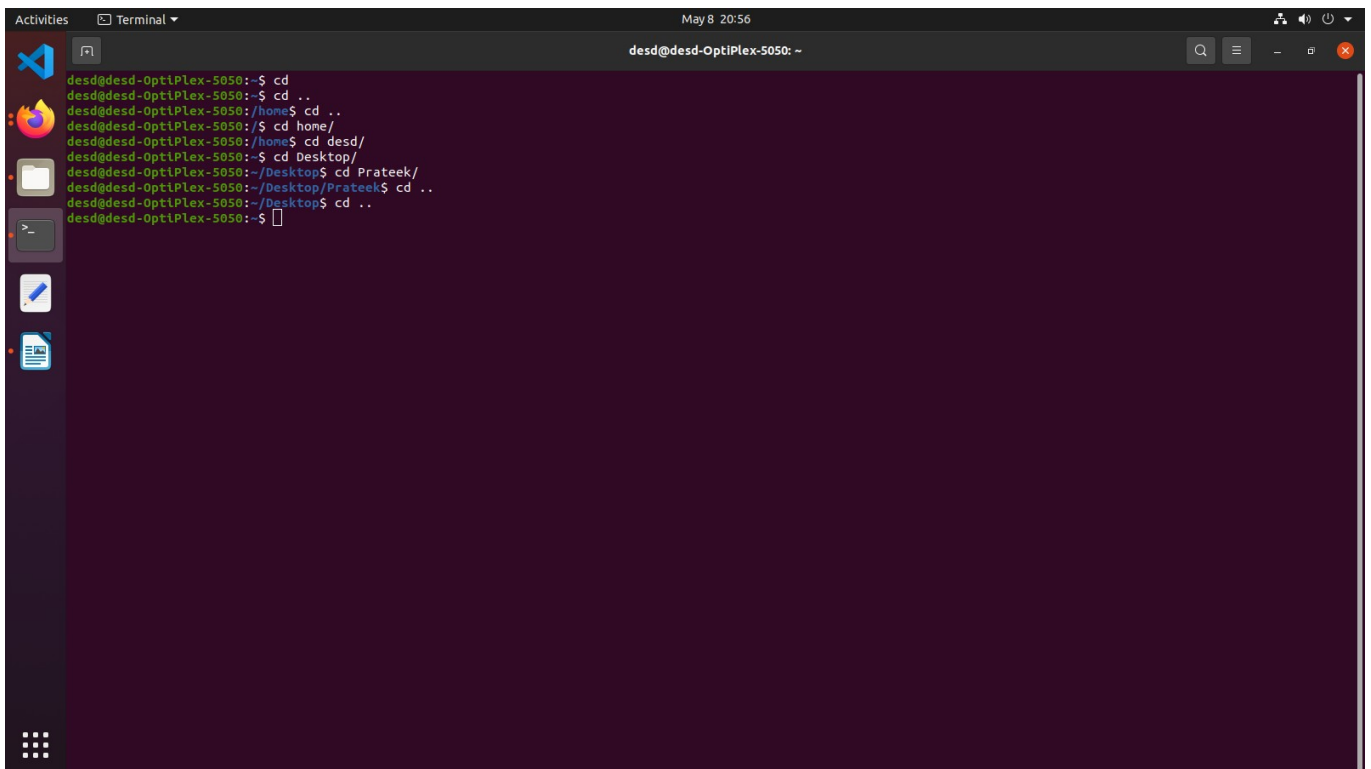


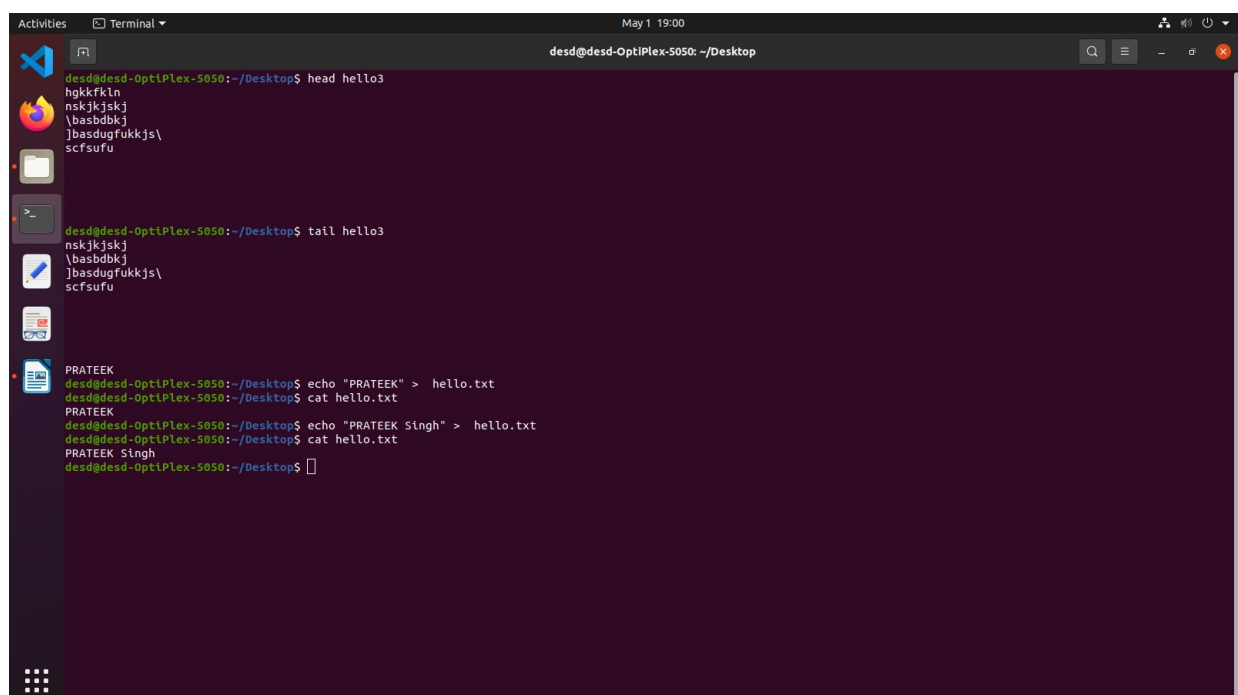
1. Print the current working directory. Browse through the Linux File system using cd command. Use dot(.) and dot-dot (..) notations. Use relative and absolute paths.

A terminal window titled 'Terminal' with a dark background. The prompt is 'desd@desd-OptiPlex-5050: ~'. The user enters a series of 'cd' commands: 'cd', 'cd ..', 'cd ..', 'cd /home', 'cd ..', 'cd Desktop', 'cd Prateek', 'cd ..', and 'cd ..'. The prompt changes to reflect the current directory: '~', '/home', and '/Desktop'.

```
desd@desd-OptiPlex-5050:~$ cd
desd@desd-OptiPlex-5050:~$ cd ..
desd@desd-OptiPlex-5050:/home$ cd ..
desd@desd-OptiPlex-5050:/home$ cd Desktop/
desd@desd-OptiPlex-5050:/Desktop$ cd Prateek/
desd@desd-OptiPlex-5050:~/Desktop/Prateek$ cd ..
desd@desd-OptiPlex-5050:~/Desktop$ cd ..
desd@desd-OptiPlex-5050:~$
```

Here we we used the cd COMMAND To change the Directory and also go back the previous directory using the (..).

2. Use the commands echo and touch. Study the symbols < and > for redirection. Understand how the echo command can create a new text file using redirection.

A terminal window titled 'Terminal' with a dark background. The prompt is 'desd@desd-OptiPlex-5050: ~/Desktop'. The user enters several commands: 'head hello3', 'tail hello3', 'echo "PRATEEK" > hello.txt', 'cat hello.txt', 'echo "PRATEEK Singh" > hello.txt', and 'cat hello.txt'. The output of 'head' and 'tail' shows random characters. The output of 'cat' shows the text 'PRATEEK' and 'PRATEEK Singh' respectively.

```
desd@desd-OptiPlex-5050:~/Desktop$ head hello3
hgkkfkln
nskjkjskj
\basbdbkj
]basdugfukkjs\
scfsufu

desd@desd-OptiPlex-5050:~/Desktop$ tail hello3
nskjkjskj
\basbdbkj
]basdugfukkjs\
scfsufu

PRATEEK
desd@desd-OptiPlex-5050:~/Desktop$ echo "PRATEEK" > hello.txt
desd@desd-OptiPlex-5050:~/Desktop$ cat hello.txt
PRATEEK
desd@desd-OptiPlex-5050:~/Desktop$ echo "PRATEEK Singh" > hello.txt
desd@desd-OptiPlex-5050:~/Desktop$ cat hello.txt
PRATEEK Singh
desd@desd-OptiPlex-5050:~/Desktop$
```

- touch: No output; creates empty file.
- echo >: No output; creates/overwrites file with text.
- echo >>: No output; appends text to file.
- <: Feeds file content as input (output depends on the command).

3. Use different options of ls command and see the output. Interpret the output of ls -l. Understand the permission field. Try using the echo, touch, and cp commands to create/copy files into a directory where you do not have permission. Correlate the permission field with the results of your commands.

```

desd@desd-OptiPlex-5050:~$ ls
ALL          ay          data        Documents   left        Music       Public      Q_6         que_2.c     snap        STM32CubeMonitor  Templates
a.out        CDAC_Sharing_Data  demo_struct.c Desktop      encrypted.txt  matrix.c    q1.c        Q_6.c       right       STM32Cube  task4.c        Videos
desd@desd-OptiPlex-5050:~$ ls -l
total 164
drwxrwxr-x 2 desd desd 4096 May  1 17:44 250240130019
drwxrwxr-x 2 desd desd 4096 Apr 20 18:53 ALL
-rwxrwxr-x 1 desd desd 17248 Mar 31 12:50 a.out
drwxrwxr-x 2 desd desd 4096 Feb 28 20:12 ay
drwxrwxr-x 4 desd desd 4096 May  1 17:58 Ayush
drwxrwxr-x 6 desd desd 4096 Mar 25 17:23 CDAC_Sharing_Data
-rw-rw-r-- 1 desd desd   0 May  1 12:38 data
-rw-rw-r-- 1 desd desd 1255 Mar 29 00:47 demo_struct.c
drwxr-xr-x 9 desd desd 4096 May  8 20:54 Desktop
drwxr-xr-x 4 desd desd 4096 Apr 21 14:26 Documents
drwxr-xr-x 8 desd desd 4096 May  8 13:36 Downloads
-rw-rw-r-- 1 desd desd 21 Mar 31 12:50 encrypted.txt
-rw-rw-r-- 1 desd desd   0 May  1 12:38 left
drwxrwxr-x 8 desd desd 4096 Apr 15 11:15 Lyra
-rw-rw-r-- 1 desd desd 335 Mar  8 01:49 matrix.c
drwxr-xr-x 3 desd desd 4096 Mar 31 07:50 Music
drwxr-xr-x 2 desd desd 4096 May  8 20:59 Pictures
-rw-rw-r-- 1 desd desd 557 Apr 23 16:26 prac.c
drwxr-xr-x 2 desd desd 4096 Feb 19 21:56 Public
-rw-rw-r-- 1 desd desd 1569 Mar 22 00:27 q1.c
-rw-rw-r-- 1 desd desd 116 Mar 22 00:37 q2.c
-rw-rw-r-- 1 desd desd 16 Mar 10 20:41 Q_6
-rw-rw-r-- 1 desd desd 191 Mar 10 20:49 Q_6.c
-rw-rw-r-- 1 desd desd 1262 Apr 24 23:57 que_1.c
-rw-rw-r-- 1 desd desd 2647 Mar 31 12:41 que_2.c
-rw-rw-r-- 1 desd desd   0 May  1 12:38 right
drwxrwxr-x 2 desd desd 4096 Mar  3 19:59 SAAsgnnt
drwx----- 5 desd desd 4096 Mar 31 07:23 snap
drwxrwxr-x 3 desd desd 4096 Mar 25 17:53 STM32Cube
drwxrwxr-x 4 desd desd 4096 Apr 20 02:04 STM32CubeIDE
drwxrwxr-x 3 desd desd 4096 Apr  2 21:53 STM32CubeMonitor
-rwxrwxr-x 1 desd desd 10800 Feb 28 22:41 task4
-rw-rw-r-- 1 desd desd 263 Feb 28 22:47 task4.c
drwxr-xr-x 2 desd desd 4096 Feb 19 21:56 Templates
drwxr-xr-x 3 desd desd 4096 Apr 21 07:13 Videos
-rw-rw-r-- 1 desd desd 499 May  6 11:20 while
desd@desd-OptiPlex-5050:~$

```

4. Use the commands `mkdir` and `rmdir` to play with directories. What is the significance of `x` permission for a subdirectory?

```
Activities Terminal May 1 18:20
desd@desd-OptiPlex-5050: ~/Desktop

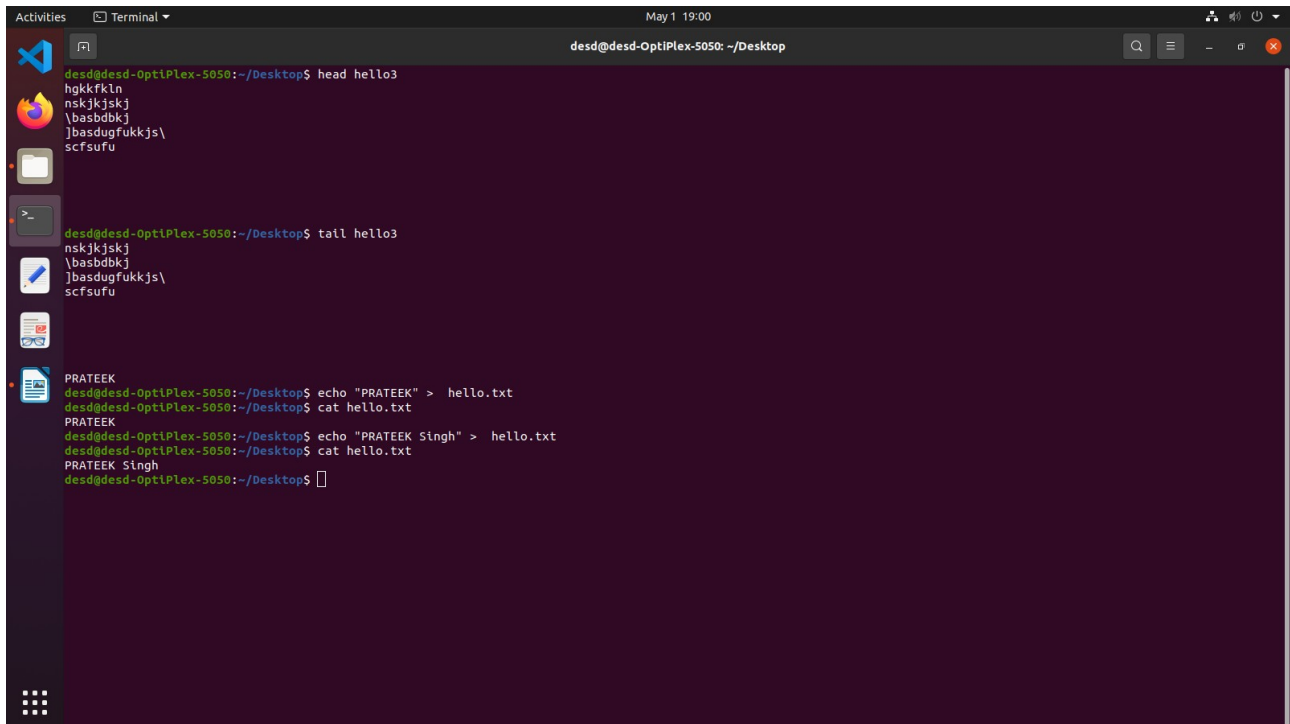
drwxrwxr-x 4 desd desd 4096 Apr 20 02:04 STM32CubeIDE
drwxrwxr-x 3 desd desd 4096 Apr 2 21:53 STM32CubeMonitor
-rwxrwxr-x 1 desd desd 16880 Feb 28 22:41 task4
-rw-rw-r-- 1 desd desd 263 Feb 28 22:47 task4.c
drwxr-xr-x 2 desd desd 4096 Feb 19 21:56 Templates
drwxr-xr-x 3 desd desd 4096 Apr 21 07:13 Videos
desd@desd-OptiPlex-5050:~$ cd Des
bash: cd: Des: No such file or directory
desd@desd-OptiPlex-5050:~$ cd Desktop/
desd@desd-OptiPlex-5050:~/Desktop$ ls
Anagha_Kolhe AVR Ayush CDAC_Sharing_Data-master 'C in Depth by Shrivastava-2.pdf' DSA EOS hello.txt Lyra Prateek
desd@desd-OptiPlex-5050:~/Desktop$ mkdir Newfile
desd@desd-OptiPlex-5050:~/Desktop$ ls
Anagha_Kolhe AVR Ayush CDAC_Sharing_Data-master 'C in Depth by Shrivastava-2.pdf' DSA EOS hello.txt Lyra Newfile Prateek
desd@desd-OptiPlex-5050:~/Desktop$ ls -l
total 24344
drwxrwxr-x 9 desd desd 4096 Apr 9 22:13 Anagha_Kolhe
drwxrwxr-x 4 desd desd 4096 Mar 15 23:40 AVR
drwxrwxr-x 4 desd desd 4096 May 1 18:05 Ayush
drwxrwxr-x 6 desd desd 4096 Apr 28 16:21 CDAC_Sharing_Data-master
-rw-rw-r-- 1 desd desd 24885532 Mar 7 23:35 'C in Depth by Shrivastava-2.pdf'
drwxrwxr-x 7 desd desd 4096 Apr 28 16:32 DSA
drwxrwxr-x 2 desd desd 4096 May 1 18:15 EOS
-rw-rw-r-- 1 desd desd 3 May 1 18:11 hello.txt
drwxrwxr-x 8 desd desd 4096 Apr 15 11:15 Lyra
drwxrwxr-x 2 desd desd 4096 May 1 18:20 Newfile
drwxrwxr-x 4 desd desd 4096 Apr 30 02:45 Prateek
desd@desd-OptiPlex-5050:~/Desktop$ cd Newfile/
desd@desd-OptiPlex-5050:~/Desktop/Newfile$ ls
desd@desd-OptiPlex-5050:~/Desktop/Newfile$ cd
desd@desd-OptiPlex-5050:~/Desktop$ cd Desktop/
desd@desd-OptiPlex-5050:~/Desktop$ rmdir Newfile/
desd@desd-OptiPlex-5050:~/Desktop$ ls -l
total 24340
drwxrwxr-x 9 desd desd 4096 Apr 9 22:13 Anagha_Kolhe
drwxrwxr-x 4 desd desd 4096 Mar 15 23:40 AVR
drwxrwxr-x 4 desd desd 4096 May 1 18:05 Ayush
drwxrwxr-x 6 desd desd 4096 Apr 28 16:21 CDAC_Sharing_Data-master
-rw-rw-r-- 1 desd desd 24885532 Mar 7 23:35 'C in Depth by Shrivastava-2.pdf'
drwxrwxr-x 7 desd desd 4096 Apr 28 16:32 DSA
drwxrwxr-x 2 desd desd 4096 May 1 18:15 EOS
-rw-rw-r-- 1 desd desd 3 May 1 18:11 hello.txt
drwxrwxr-x 8 desd desd 4096 Apr 15 11:15 Lyra
drwxrwxr-x 4 desd desd 4096 Apr 30 02:45 Prateek
desd@desd-OptiPlex-5050:~/Desktop$
```

5. Use commands `-find`, `whereis` and `which` for finding files in the file system.

```
Activities Terminal May 8 12:13
desd@desd-optiplex-desd06: ~/Desktop/Embedded_os/EOS

desd@desd-optiplex-desd06:~/Desktop/Embedded_os/EOS$ ls -l
total 8164
-rw-rw-r-- 1 desd desd 46827 May 2 09:22 383f472.png
-rw-rw-r-- 1 desd desd 829531 May 3 15:55 87046.jpg
-rwxrwxr-x 1 desd desd 17224 May 8 08:39 a.out
drwxrwxr-x 2 desd desd 4096 May 8 12:09 Assignment_1
drwxrwxr-x 2 desd desd 4096 May 8 11:10 Assignment_2
drwxrwxr-x 2 desd desd 4096 May 8 11:10 Assignment_3
-rwxrwxr-x 1 desd desd 16912 May 3 16:02 excel
-rw-rw-r-- 1 desd desd 17177 May 8 11:09 race_updated_sen.c
-rwxrwxr-x 1 desd desd 16880 May 7 08:47 recieve
-rw-rw-r-- 1 desd desd 48675 May 8 08:34 'Screenshot from 2025-05-08 13-12-29.png'
-rwxrwxr-x 1 desd desd 17192 May 7 08:47 send
-rw-rw-r-- 1 desd desd 18403 May 8 08:34 shared_mem.c
-rw-rw-r-- 1 desd desd 7260882 May 8 11:09 'The Linux Programming Interface-Michael Kerrisk.pdf'
-rwxrwxr-x 1 desd desd 16872 May 5 14:56 w1
-rwxrwxr-x 1 desd desd 16872 May 5 14:57 w2
desd@desd-optiplex-desd06:~/Desktop/Embedded_os/EOS$ whereis gcc
gcc: /usr/bin/gcc /usr/lib/gcc /usr/share/gcc /usr/share/man/man1/gcc.1.gz
desd@desd-optiplex-desd06:~/Desktop/Embedded_os/EOS$ find temp
find: 'temp': No such file or directory
desd@desd-optiplex-desd06:~/Desktop/Embedded_os/EOS$ find send
send
desd@desd-optiplex-desd06:~/Desktop/Embedded_os/EOS$ find Assignment_1
Assignment_1
Assignment_1/temp
Assignment_1/Assignment 1 Basic commands (linux).txt
desd@desd-optiplex-desd06:~/Desktop/Embedded_os/EOS$ find Assignment_5
find: 'Assignment_5': No such file or directory
desd@desd-optiplex-desd06:~/Desktop/Embedded_os/EOS$
```

6. Use commands `cat`, `head`, `tail`, `more`, `less` for displaying file contents on the screen. Understand options of these commands.

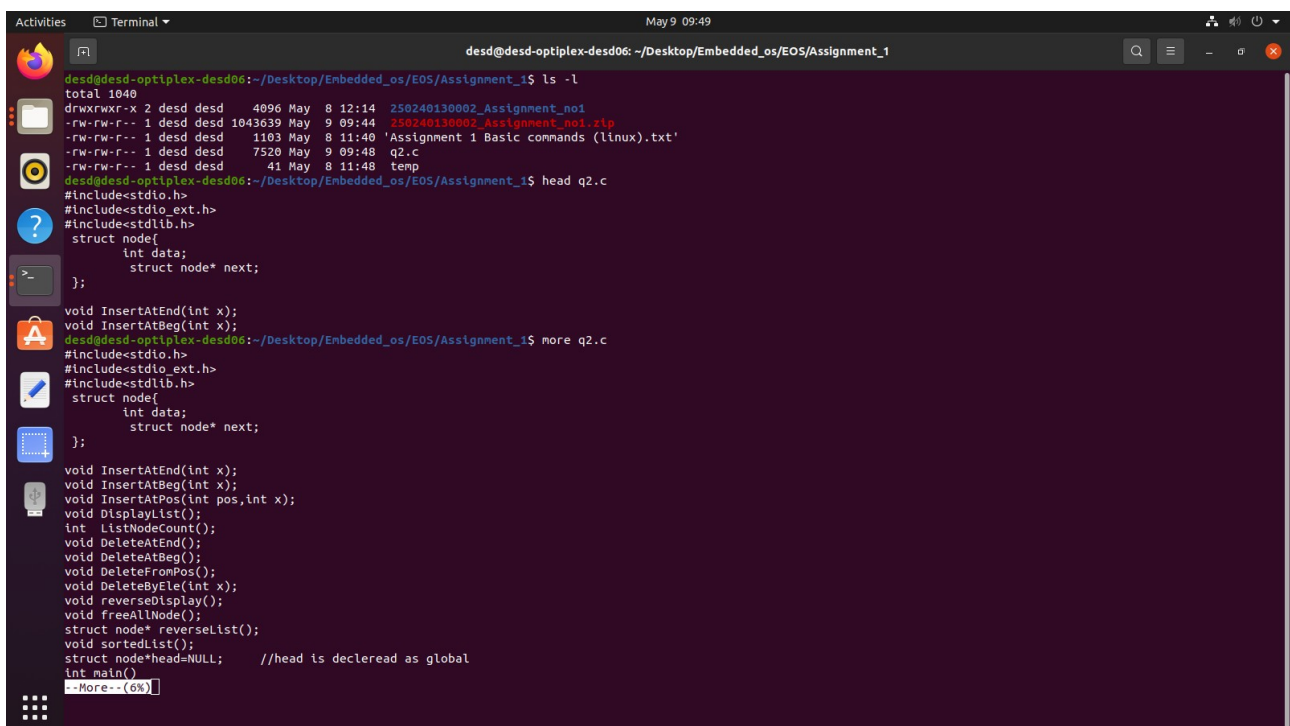


A terminal window titled "Terminal" with a date of May 1 19:00. The user is at the prompt `desd@desd-OptiPlex-5050: ~/Desktop`. The following commands and their outputs are shown:

```
desd@desd-OptiPlex-5050:~/Desktop$ head hello3
hgkkrfln
nskjkjskj
\bdsdbbkj
]basdugfukkjs\
scfsufu

desd@desd-OptiPlex-5050:~/Desktop$ tail hello3
nskjkjskj
\bdsdbbkj
]basdugfukkjs\
scfsufu

PRATEEK
desd@desd-OptiPlex-5050:~/Desktop$ echo "PRATEEK" > hello.txt
desd@desd-OptiPlex-5050:~/Desktop$ cat hello.txt
PRATEEK
desd@desd-OptiPlex-5050:~/Desktop$ echo "PRATEEK Singh" > hello.txt
desd@desd-OptiPlex-5050:~/Desktop$ cat hello.txt
PRATEEK Singh
desd@desd-OptiPlex-5050:~/Desktop$
```



A terminal window titled "Terminal" with a date of May 9 09:49. The user is at the prompt `desd@desd-optiplex-desd06: ~/Desktop/Embedded_os/EOS/Assignment_1`. The following commands and their outputs are shown:

```
desd@desd-optiplex-desd06:~/Desktop/Embedded_os/EOS/Assignment_1$ ls -l
total 1040
drwxrwxr-x 2 desd desd 4096 May 8 12:14 258240130002_Assignment_no1
-rw-rw-r-- 1 desd desd 1043639 May 9 09:44 258240130002_Assignment_no1.zip
-rw-rw-r-- 1 desd desd 1103 May 8 11:40 'Assignment 1 Basic commands (linux).txt'
-rw-rw-r-- 1 desd desd 7520 May 9 09:48 q2.c
-rw-rw-r-- 1 desd desd 41 May 8 11:48 temp

desd@desd-optiplex-desd06:~/Desktop/Embedded_os/EOS/Assignment_1$ head q2.c
#include<stdio.h>
#include<stdio_ext.h>
#include<stdlib.h>
struct node{
    int data;
    struct node* next;
};

void InsertAtEnd(int x);
void InsertAtBeg(int x);
desd@desd-optiplex-desd06:~/Desktop/Embedded_os/EOS/Assignment_1$ more q2.c
#include<stdio.h>
#include<stdio_ext.h>
#include<stdlib.h>
struct node{
    int data;
    struct node* next;
};

void InsertAtEnd(int x);
void InsertAtBeg(int x);
void InsertAtPos(int pos,int x);
void DisplayList();
int ListNodeCount();
void DeleteAtEnd();
void DeleteAtBeg();
void DeleteFromPos();
void DeleteByEle(int x);
void reverseDisplay();
void freeAllNode();
struct node* reverseList();
void sortedList();
struct node*head=NULL; //head is declared as global
int main()
--More-- (6%)
```