

Institute of Computer Technology
B. Tech Computer Science and Engineering
Subject: BOSS (2CSE204)

PRACTICAL-3

AIM: - To learn Creating, Viewing and Editing files from the command line in Linux.

Commands:

- `> file` – to overwrite content in a file
- `>> file` – to append content in a file
- `2> file` – to store error in a file
- `2> /dev/null` – To discard an error
- `> file 2>&1` or `&> file` – to overwrite content or error in file
- `>> file 2>&1` or `&>> file` – to append content or error in file
- `Command-1 | Command-2` – this is used for pipping; it means the output of 1st command is used as input for 2nd command.
- `Command-1 | tee Command-2 | Command-3` – in this output of 1st command is stored or display and also used as input for 3rd command.
- `Shift + V` – to view in Visual Line
- `Ctrl + V` – to view in Visual Block
- `v` – to go in visual mode
- `x` – to delete/terminate the character
- `u` – used to undo changes
- `:q!` – to quit vi editor without saving changes in file

Exercise:

1. **Rehan wants to create directory Practical3 with 10 files & 3 subdirectories. Assign file name as Practical_exY.txt, Replace Y with exercise 1 to 10 & directory name as TempX, Replace X with 1 to 3.**

SOLUTION:

```
[yashpra1010@localhost ~]$ mkdir -p Practical3/Temp{1..3}
[yashpra1010@localhost ~]$ touch Practical3/Practical_ex{1..10}.txt
[yashpra1010@localhost ~]$ ls -R Practical3/
Practical3/:
Practical_ex10.txt  Practical_ex4.txt  Practical_ex8.txt  Temp3
Practical_ex1.txt   Practical_ex5.txt  Practical_ex9.txt
Practical_ex2.txt   Practical_ex6.txt  Temp1
Practical_ex3.txt   Practical_ex7.txt  Temp2

Practical3/Temp1:

Practical3/Temp2:

Practical3/Temp3:
[yashpra1010@localhost ~]$
```

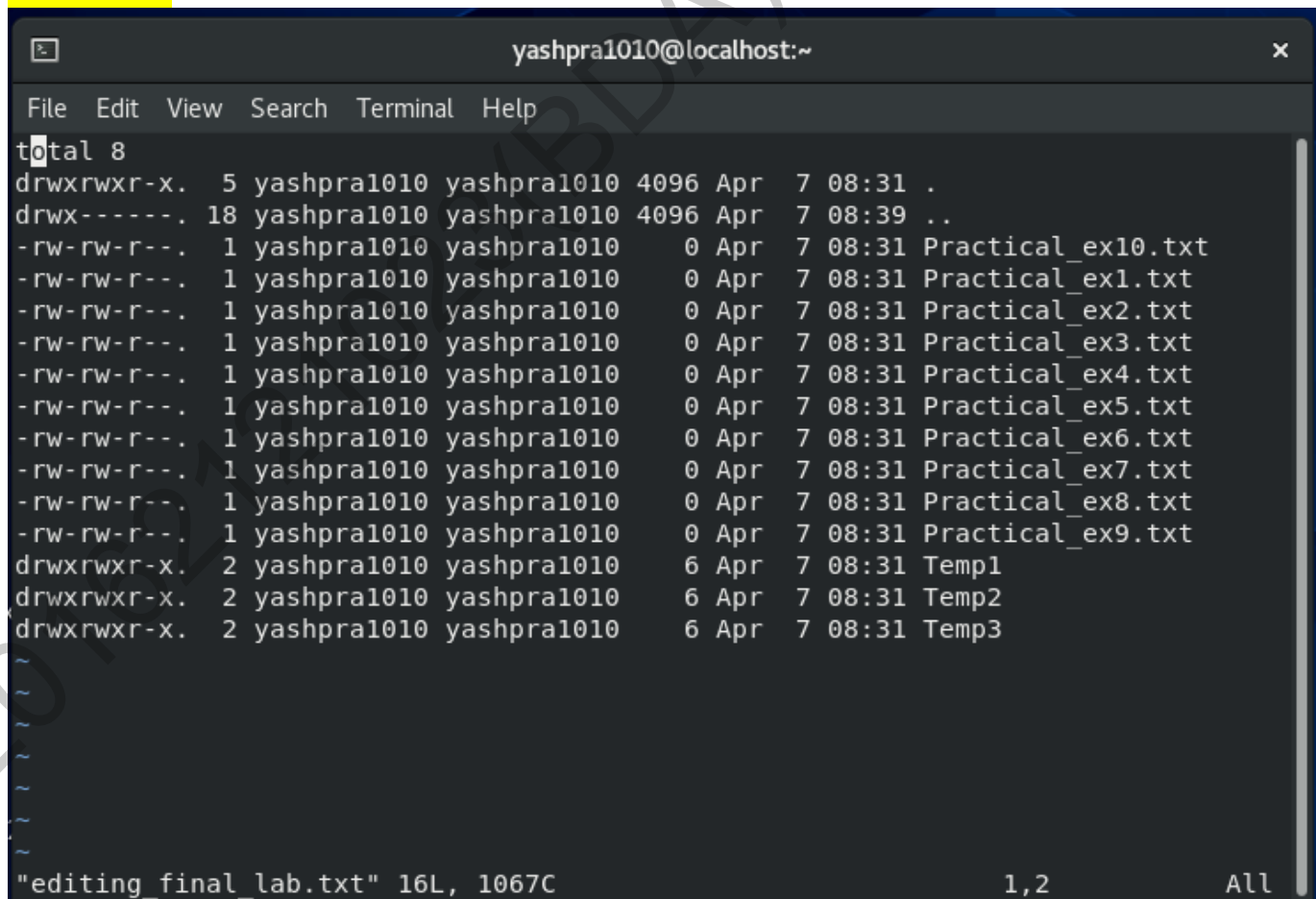
2. Now, He wants to redirect a long listing of all content in the Practical3 directory, including hidden directories and files, into a file named editing_final_lab.txt.

SOLUTION:

```
[yashpra1010@localhost ~]$ ls -al Practical3 > editing_final_lab.txt
[yashpra1010@localhost ~]$ cat editing_final_lab.txt
total 8
drwxrwxr-x.  5 yashpra1010 yashpra1010 4096 Apr  7 08:31 .
drwx----- 18 yashpra1010 yashpra1010 4096 Apr  7 08:39 ..
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex10.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex1.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex2.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex3.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex4.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex5.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex6.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex7.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex8.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex9.txt
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp1
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp2
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp3
[yashpra1010@localhost ~]$
```

3. Edit the file using Vi.

SOLUTION:



```

yashpra1010@localhost:~
File Edit View Search Terminal Help
total 8
drwxrwxr-x.  5 yashpra1010 yashpra1010 4096 Apr  7 08:31 .
drwx----- 18 yashpra1010 yashpra1010 4096 Apr  7 08:39 ..
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex10.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex1.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex2.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex3.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex4.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex5.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex6.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex7.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex8.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex9.txt
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp1
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp2
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp3

"editing_final_lab.txt" 16L, 1067C      1,2      All

```

4. He wants to remove the first three lines. Enter line-based visual mode with uppercase V.

SOLUTION:

```
yashpra1010@localhost:~
File Edit View Search Terminal Help
total 8
drwxrwxr-x.  5 yashpra1010 yashpra1010 4096 Apr  7 08:31 .
drwx----- 18 yashpra1010 yashpra1010 4096 Apr  7 08:39 ..
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex10.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex1.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex2.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex3.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex4.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex5.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex6.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex7.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex8.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex9.txt
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp1
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp2
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp3
~
~
~
~
~
-- VISUAL LINE --                               3          3,1          All

yashpra1010@localhost:~
File Edit View Search Terminal Help
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex10.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex1.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex2.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex3.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex4.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex5.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex6.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex7.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex8.txt
-rw-rw-r--.  1 yashpra1010 yashpra1010    0 Apr  7 08:31 Practical_ex9.txt
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp1
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp2
drwxrwxr-x.  2 yashpra1010 yashpra1010    6 Apr  7 08:31 Temp3
~
~
~
~
~
3 fewer lines                               1,1          All
```

SOLUTION:

SOLUTION:



7. Rehan wants to remove the fourth column. Use appropriate visual mode for the same.

SOLUTION:

The image shows two screenshots of a terminal window. The top screenshot shows a file with 10 columns. The bottom screenshot shows the same file after the fourth column has been removed, resulting in 9 columns. The terminal window has a menu bar with File, Edit, View, Search, Terminal, and Help. The status bar at the bottom of the terminal window shows the current mode and cursor position.

Top Screenshot:

```
yashpra1010@localhost:~  
File Edit View Search Terminal Help  
-rw- 1 yashpra1010 yashpra1010 0 Apr 7 08:31 Practical_ex10.txt  
-rw- 1 yashpra1010 yashpra1010 0 Apr 7 08:31 Practical_ex1.txt  
-rw- 1 yashpra1010 yashpra1010 0 Apr 7 08:31 Practical_ex2.txt  
-rw- 1 yashpra1010 yashpra1010 0 Apr 7 08:31 Practical_ex3.txt  
-rw- 1 yashpra1010 yashpra1010 0 Apr 7 08:31 Practical_ex4.txt  
-rw- 1 yashpra1010 yashpra1010 0 Apr 7 08:31 Practical_ex5.txt  
-rw- 1 yashpra1010 yashpra1010 0 Apr 7 08:31 Practical_ex6.txt  
-rw- 1 yashpra1010 yashpra1010 0 Apr 7 08:31 Practical_ex7.txt  
-rw- 1 yashpra1010 yashpra1010 0 Apr 7 08:31 Practical_ex8.txt  
-rw- 1 yashpra1010 yashpra1010 0 Apr 7 08:31 Practical_ex9.txt  
drwx 2 yashpra1010 yashpra1010 6 Apr 7 08:31 Temp1  
drwx 2 yashpra1010 yashpra1010 6 Apr 7 08:31 Temp2  
drwx 2 yashpra1010 yashpra1010 6 Apr 7 08:31 Temp3  
-- VISUAL BLOCK -- 13x11 13,31 All
```

Bottom Screenshot:

```
yashpra1010@localhost:~  
File Edit View Search Terminal Help  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex10.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex1.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex2.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex3.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex4.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex5.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex6.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex7.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex8.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex9.txt  
drwx 2 yashpra1010 6 Apr 7 08:31 Temp1  
drwx 2 yashpra1010 6 Apr 7 08:31 Temp2  
drwx 2 yashpra1010 6 Apr 7 08:31 Temp3  
1,21 All
```

8. Also, he doesn't want to use time column, so remove the time column using relevant mode to delete column data, leaving the month and day on all lines.

SOLUTION:

The image shows two screenshots of a terminal window. The top screenshot shows a list of files with their permissions, owner, group, size, month, day, time, and filename. The bottom screenshot shows the same list after the time column has been removed.

```
yashpra1010@localhost:~  
File Edit View Search Terminal Help  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex10.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex1.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex2.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex3.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex4.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex5.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex6.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex7.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex8.txt  
-rw- 1 yashpra1010 0 Apr 7 08:31 Practical_ex9.txt  
drwx 2 yashpra1010 6 Apr 7 08:31 Temp1  
drwx 2 yashpra1010 6 Apr 7 08:31 Temp2  
drwx 2 yashpra1010 6 Apr 7 08:31 Temp3  
  
-- VISUAL BLOCK -- 13x5 13,38 All  
  
yashpra1010@localhost:~  
File Edit View Search Terminal Help  
-rw- 1 yashpra1010 0 Apr 7 Practical_ex10.txt  
-rw- 1 yashpra1010 0 Apr 7 Practical_ex1.txt  
-rw- 1 yashpra1010 0 Apr 7 Practical_ex2.txt  
-rw- 1 yashpra1010 0 Apr 7 Practical_ex3.txt  
-rw- 1 yashpra1010 0 Apr 7 Practical_ex4.txt  
-rw- 1 yashpra1010 0 Apr 7 Practical_ex5.txt  
-rw- 1 yashpra1010 0 Apr 7 Practical_ex6.txt  
-rw- 1 yashpra1010 0 Apr 7 Practical_ex7.txt  
-rw- 1 yashpra1010 0 Apr 7 Practical_ex8.txt  
-rw- 1 yashpra1010 0 Apr 7 Practical_ex9.txt  
drwx 2 yashpra1010 6 Apr 7 Temp1  
drwx 2 yashpra1010 6 Apr 7 Temp2  
drwx 2 yashpra1010 6 Apr 7 Temp3  
  
1,34 All
```

9. Remove the Practical_ex10.txt and Temp3 rows using appropriate visual mode.

SOLUTION:

yashpra1010@localhost:~

File Edit View Search Terminal Help

-rw-	1	yashpra1010	0 Apr 7	Practical_ex10.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex1.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex2.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex3.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex4.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex5.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex6.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex7.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex8.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex9.txt
drwx	2	yashpra1010	6 Apr 7	Temp1
drwx	2	yashpra1010	6 Apr 7	Temp2
drwx	2	yashpra1010	6 Apr 7	Temp3

-- VISUAL LINE --11,1All

yashpra1010@localhost:~

File Edit View Search Terminal Help

-rw-	1	yashpra1010	0 Apr 7	Practical_ex1.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex2.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex3.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex4.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex5.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex6.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex7.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex8.txt
-rw-	1	yashpra1010	0 Apr 7	Practical_ex9.txt
drwx	2	yashpra1010	6 Apr 7	Temp1
drwx	2	yashpra1010	6 Apr 7	Temp2
drwx	2	yashpra1010	6 Apr 7	Temp3

-- VISUAL LINE --112,1All


```

yashpra1010@localhost:~
File Edit View Search Terminal Help
-rw- 1 yashpra1010 0 Apr 7 Practical_ex1.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex2.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex3.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex4.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex5.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex6.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex7.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex8.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex9.txt
drwx 2 yashpra1010 6 Apr 7 Temp1
drwx 2 yashpra1010 6 Apr 7 Temp2

```

10. Now he wants to save the changes and exit from the file. Also wants to keep a backup file of modified file, using the date (in seconds) to create a unique file name.

SOLUTION:

```
yashpra1010@localhost:~
```

File	Edit	View	Search	Terminal	Help
-rw-rw-r--	1	yashpra1010	yashpra1010	0 Apr 7 08:31	Practical_ex6.txt
-rw-rw-r--	1	yashpra1010	yashpra1010	0 Apr 7 08:31	Practical_ex7.txt
-rw-rw-r--	1	yashpra1010	yashpra1010	0 Apr 7 08:31	Practical_ex8.txt
-rw-rw-r--	1	yashpra1010	yashpra1010	0 Apr 7 08:31	Practical_ex9.txt
drwxrwxr-x	2	yashpra1010	yashpra1010	6 Apr 7 08:31	Temp1
drwxrwxr-x	2	yashpra1010	yashpra1010	6 Apr 7 08:31	Temp2
drwxrwxr-x	2	yashpra1010	yashpra1010	6 Apr 7 08:31	Temp3

```
[yashpra1010@localhost ~]$ vi editing_final_lab.txt
[yashpra1010@localhost ~]$ man date
[yashpra1010@localhost ~]$ cp editing_final_lab.txt editing_final_lab_$(date +%s).txt
[yashpra1010@localhost ~]$ cat editing_final_lab_1617766706.txt
```

File	Edit	View	Search	Terminal	Help
-rw-	1	yashpra1010		0 Apr 7	Practical_ex1.txt
-rw-	1	yashpra1010		0 Apr 7	Practical_ex2.txt
-rw-	1	yashpra1010		0 Apr 7	Practical_ex3.txt
-rw-	1	yashpra1010		0 Apr 7	Practical_ex4.txt
-rw-	1	yashpra1010		0 Apr 7	Practical_ex5.txt
-rw-	1	yashpra1010		0 Apr 7	Practical_ex6.txt
-rw-	1	yashpra1010		0 Apr 7	Practical_ex7.txt
-rw-	1	yashpra1010		0 Apr 7	Practical_ex8.txt
-rw-	1	yashpra1010		0 Apr 7	Practical_ex9.txt
drwx	2	yashpra1010		6 Apr 7	Temp1
drwx	2	yashpra1010		6 Apr 7	Temp2

```
[yashpra1010@localhost ~]$
```

11. He wants to append a dashed line into the file. The dashed line should contain at least 12 dashes.

SOLUTION:

```
[yashpra1010@localhost ~]$ echo "-----" >> editing_final_lab.txt
[yashpra1010@localhost ~]$ cat editing_final_lab.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex1.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex2.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex3.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex4.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex5.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex6.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex7.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex8.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex9.txt
drwx 2 yashpra1010 6 Apr 7 Temp1
drwx 2 yashpra1010 6 Apr 7 Temp2
-----
[yashpra1010@localhost ~]$
```

12. Also need to append a directory listing of the Documents directory. List the directory listing on the terminal and send it to the editing_final_lab.txt file with one command line.

SOLUTION:

```
[yashpra1010@localhost ~]$ ls Documents/ | tee -a editing_final_lab.txt
backups
my_bestseller
project_plans
[yashpra1010@localhost ~]$ cat editing_final_lab.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex1.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex2.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex3.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex4.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex5.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex6.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex7.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex8.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex9.txt
drwx 2 yashpra1010 6 Apr 7 Temp1
drwx 2 yashpra1010 6 Apr 7 Temp2
-----
backups
my_bestseller
project_plans
[yashpra1010@localhost ~]$
```

13. Confirm that the directory listing is at the bottom of the lab file.**SOLUTION:**

```
[yashpra1010@localhost ~]$ ls Documents/ | tee -a editing_final_lab.txt
backups
my_bestseller
project_plans
[yashpra1010@localhost ~]$ cat editing_final_lab.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex1.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex2.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex3.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex4.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex5.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex6.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex7.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex8.txt
-rw- 1 yashpra1010 0 Apr 7 Practical_ex9.txt
drwx 2 yashpra1010 6 Apr 7 Temp1
drwx 2 yashpra1010 6 Apr 7 Temp2
-----
backups
my_bestseller
project_plans
[yashpra1010@localhost ~]$
```