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OS Lab 5

Task 1:

Run all switches with **uname** command.

-r, -m, -p, -l, -o, -a, -v, -n

And define in one line about these commands according to your understanding.

Solution:

Uname -r: gives the kernel information

Uname -m: hardware name of the machine

Uname -p: gives information about the type of processor

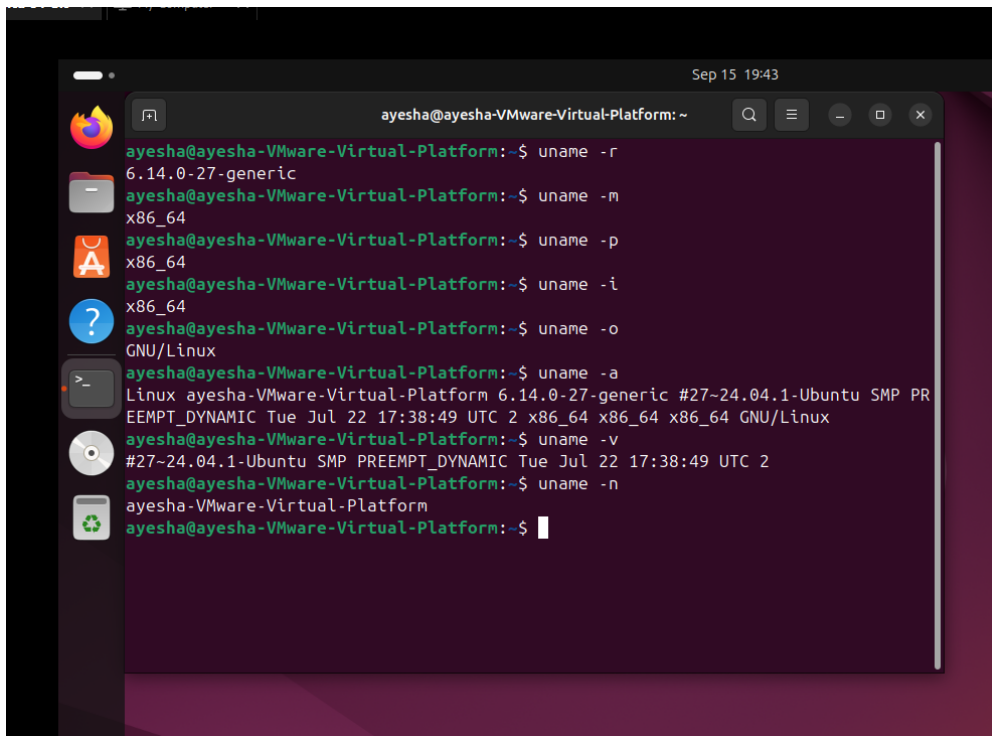
Uname -l: gives information about the hardware

Uname -o: prints the details of the operating system

Uname -a: gives the full detail of the operating system

Uname -v: detail of the version of kernel

Uname -n: prints the hostname of the machine

A terminal window titled 'ayesha@ayesha-VMware-Virtual-Platform: ~' with a timestamp of 'Sep 15 19:43'. The window shows the output of several 'uname' commands. On the left side of the terminal, there is a vertical sidebar with icons for various applications: a terminal icon, a file manager icon, a web browser icon, a question mark icon, a terminal icon, a terminal icon, a terminal icon, and a terminal icon. The terminal output is as follows:

```
ayesha@ayesha-VMware-Virtual-Platform:~$ uname -r
6.14.0-27-generic
ayesha@ayesha-VMware-Virtual-Platform:~$ uname -m
x86_64
ayesha@ayesha-VMware-Virtual-Platform:~$ uname -p
x86_64
ayesha@ayesha-VMware-Virtual-Platform:~$ uname -i
x86_64
ayesha@ayesha-VMware-Virtual-Platform:~$ uname -o
GNU/Linux
ayesha@ayesha-VMware-Virtual-Platform:~$ uname -a
Linux ayesha-VMware-Virtual-Platform 6.14.0-27-generic #27~24.04.1-Ubuntu SMP PR
EEMPT_DYNAMIC Tue Jul 22 17:38:49 UTC 2 x86_64 x86_64 x86_64 GNU/Linux
ayesha@ayesha-VMware-Virtual-Platform:~$ uname -v
#27~24.04.1-Ubuntu SMP PREEMPT_DYNAMIC Tue Jul 22 17:38:49 UTC 2
ayesha@ayesha-VMware-Virtual-Platform:~$ uname -n
ayesha-VMware-Virtual-Platform
ayesha@ayesha-VMware-Virtual-Platform:~$
```

Task 2:

Create new file named **labSort** and insert following text

End of file

6 apples

file to be sorted

apple on the table

23 years old

File To be Sorted

78 apples

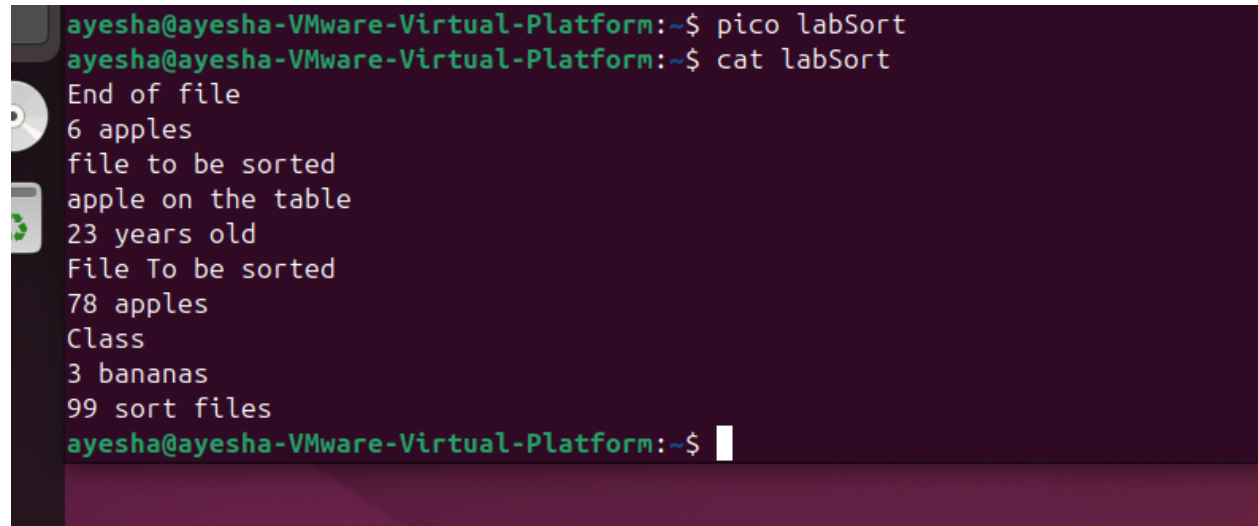
Class

3 bananas

99 sort files

Solution:

Creating file : labSort

A terminal window with a dark purple background. The prompt is 'ayesha@ayesha-VMware-Virtual-Platform:~\$'. The user enters 'pico labSort' and then 'cat labSort'. The output of 'cat' is: 'End of file', '6 apples', 'file to be sorted', 'apple on the table', '23 years old', 'File To be sorted', '78 apples', 'Class', '3 bananas', '99 sort files'. The prompt returns to 'ayesha@ayesha-VMware-Virtual-Platform:~\$'.

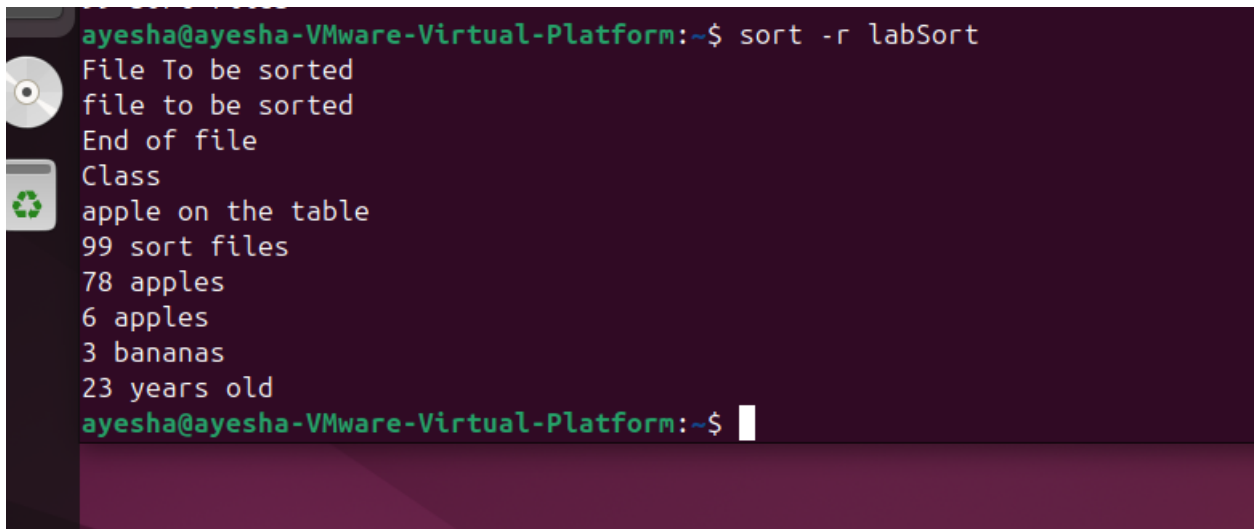
```
ayesha@ayesha-VMware-Virtual-Platform:~$ pico labSort
ayesha@ayesha-VMware-Virtual-Platform:~$ cat labSort
End of file
6 apples
file to be sorted
apple on the table
23 years old
File To be sorted
78 apples
Class
3 bananas
99 sort files
ayesha@ayesha-VMware-Virtual-Platform:~$
```

Sorting using simple “sort”:

A terminal window with a dark purple background. The prompt is 'ayesha@ayesha-VMware-Virtual-Platform:~\$'. The user enters 'sort labSort'. The output of 'sort' is: '23 years old', '3 bananas', '6 apples', '78 apples', '99 sort files', 'apple on the table', 'Class', 'End of file', 'file to be sorted', 'File To be sorted'. The prompt returns to 'ayesha@ayesha-VMware-Virtual-Platform:~\$'.

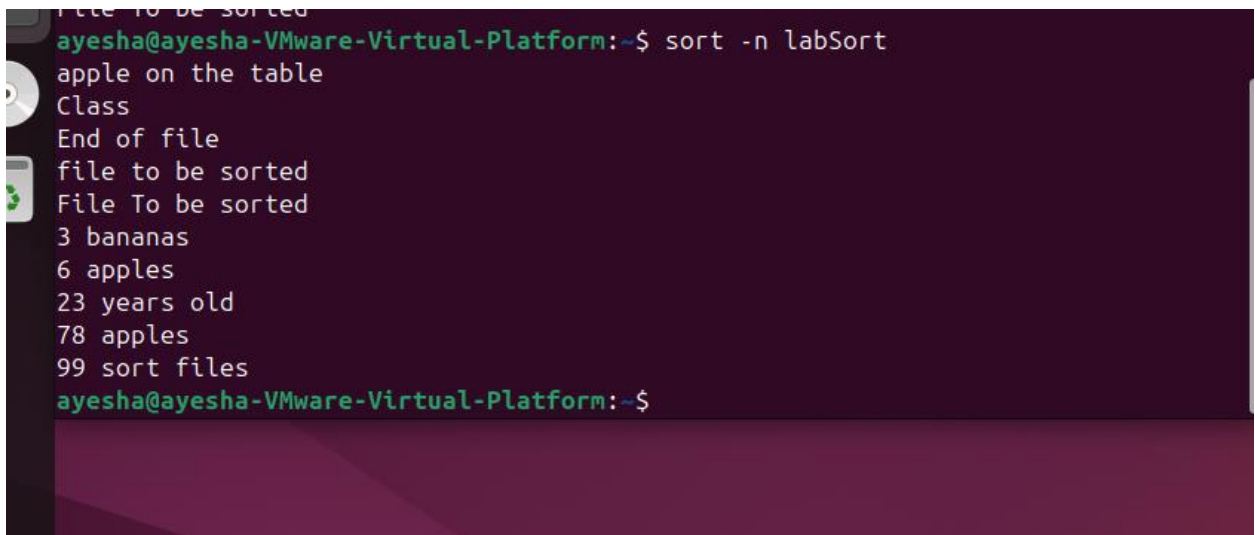
```
ayesha@ayesha-VMware-Virtual-Platform:~$ sort labSort
23 years old
3 bananas
6 apples
78 apples
99 sort files
apple on the table
Class
End of file
file to be sorted
File To be sorted
ayesha@ayesha-VMware-Virtual-Platform:~$
```

Sorting using “sort -r”:

A terminal window with a dark purple background. The prompt is 'ayesha@ayesha-VMware-Virtual-Platform:~\$'. The command 'sort -r labSort' has been executed. The output is a list of items sorted in reverse alphabetical order: 'File To be sorted', 'file to be sorted', 'End of file', 'Class', 'apple on the table', '99 sort files', '78 apples', '6 apples', '3 bananas', and '23 years old'. The prompt is now 'ayesha@ayesha-VMware-Virtual-Platform:~\$' with a cursor.

```
ayesha@ayesha-VMware-Virtual-Platform:~$ sort -r labSort
File To be sorted
file to be sorted
End of file
Class
apple on the table
99 sort files
78 apples
6 apples
3 bananas
23 years old
ayesha@ayesha-VMware-Virtual-Platform:~$
```

Sorting using “sort -n”:

A terminal window with a dark purple background. The prompt is 'ayesha@ayesha-VMware-Virtual-Platform:~\$'. The command 'sort -n labSort' has been executed. The output is a list of items sorted numerically: 'apple on the table', 'Class', 'End of file', 'file to be sorted', 'File To be sorted', '3 bananas', '6 apples', '23 years old', '78 apples', and '99 sort files'. The prompt is now 'ayesha@ayesha-VMware-Virtual-Platform:~\$'.

```
ayesha@ayesha-VMware-Virtual-Platform:~$ sort -n labSort
apple on the table
Class
End of file
file to be sorted
File To be sorted
3 bananas
6 apples
23 years old
78 apples
99 sort files
ayesha@ayesha-VMware-Virtual-Platform:~$
```

Sorting using “sort -f”:

```
ayesha@ayesha-VMware-Virtual-Platform:~$ sort -f labSort
23 years old
3 bananas
6 apples
78 apples
99 sort files
apple on the table
Class
End of file
File To be sorted
file to be sorted
ayesha@ayesha-VMware-Virtual-Platform:~$
```

Sorting using “sort -k1”:

```
ayesha@ayesha-VMware-Virtual-Platform:~$ sort -k1 labSort
23 years old
3 bananas
6 apples
78 apples
99 sort files
apple on the table
Class
End of file
file to be sorted
File To be sorted
```

Sorting using “sort -k2”:

```
ayesha@ayesha-VMware-Virtual-Platform:~$ sort -k2 labSort
Class
6 apples
78 apples
3 bananas
End of file
apple on the table
99 sort files
file to be sorted
File To be sorted
23 years old
```

Task 3:

Create another file with name **SortLabNumeric** two columns in it.

```
12   Online classes
6    Network security
14   Hacking stories
7    Tom and jerry
13   People of Pakistan
```

One column contains numeric values while other contain text. Now perform sorting on both columns. Also perform **-n** switch on both columns again and observe the pattern.

Solution:

Creating file and adding text:

```
ayesha@ayesha-VMware-Virtual-Platform:~$ pico SortLabNumeric
ayesha@ayesha-VMware-Virtual-Platform:~$ cat SortLabNumeric
12 Online classes
6 Network security
14 Hacking stories
7 Tom and jerry
13 People of Pakistan
ayesha@ayesha-VMware-Virtual-Platform:~$
```

Sorting 2nd column: (sorts the 2nd column alphabetically)

```
ayesha@ayesha-VMware-Virtual-Platform:~$ sort -k2 SortLabNumeric
14 Hacking stories
6 Network security
12 Online classes
13 People of Pakistan
7 Tom and jerry
ayesha@ayesha-VMware-Virtual-Platform:~$
```

Sorting 1st column: (according to the ascii)

```
ayesha@ayesha-VMware-Virtual-Platform:~$ sort -k1,1 SortLabNumeric
12 Online classes
13 People of Pakistan
14 Hacking stories
6 Network security
7 Tom and jerry
```

Sorting using -n:

(Arranges the 1st column in ascending order)

```
ayesha@ayesha-VMware-Virtual-Platform:~$ sort -n SortLabNumeric
6 Network security
7 Tom and jerry
12 Online classes
13 People of Pakistan
14 Hacking stories
ayesha@ayesha-VMware-Virtual-Platform:~$
```