

## Linux Shell Exercise solutions

1. Refer to Linux Command pdf file.

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### 2. 2nd question solution

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ gedit a.txt &
[3] 11681
ignitarium@IGN-BLR-LP-215:~/linuxshell$ cp a.txt b.txt
[3]+  Done                  gedit a.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ls
a.txt b.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$ gedit b.txt &
[3] 11726
ignitarium@IGN-BLR-LP-215:~/linuxshell$ diff a.txt b.txt
1c1
< qwertyulop
---
> qwertyulop hhsss
5c5
< lkjhgfdsa
---
> lkjhgfdsa ssjsjs
10c10
< eszwaq
---
> eszwaq eledj
[3]+  Done                  gedit b.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$ diff -u a.txt b.txt > a.patch
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ls
a.txt a.patch b.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$ patch a.txt < a.patch
patching file a.txt
** (gedit:11660): WARNING **: 21:48:26.772: Error querying file info: Error when getting information for file "/home/ignitarium/linuxshell/a.txt.oUn8LM2": No such file or directory
ignitarium@IGN-BLR-LP-215:~/linuxshell$ diff a.txt b.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$
```

- First I have created an **'a.txt'** file and added 10 lines of text into it.
- Then I have copied this into another file **'b.txt'** using **cp** command.
- Then I have modified a few lines in the **'b.txt'** file.
- I have used the **'diff'** utility to find the difference between two files.
- Then I have redirected the output of diff into the **'a.patch'** file.
- Then I applied a patch file on the **'a.txt'** file.
- Now after performing **'diff'** utility it is not showing any difference.i.e. Both the files are the same.

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### 3. 3rd question solution

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ sort result.txt | uniq
aman singh me 7.9
naman garg cse 9.4
prakhar agrawal cse 9.7
rajat dua ece 9.1
rishabh gupta cse 8.4
ignitarium@IGN-BLR-LP-215:~/linuxshell$
```

- The '**result.txt**' file contains some repeated text.
  - In the above command, '**sort**' command will sort the given file and then '|' will redirect its output to the next command i.e. '**uniq**' command which will eliminate duplicates.
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#### 4. 4th question solution

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ls
2ndquestion.png 3rdquestion.png 8.sh a.patch a.txt b.txt result.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$ sort result.txt > sorted_result.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ls
2ndquestion.png 3rdquestion.png 8.sh a.patch a.txt b.txt result.txt sorted_result.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$ cat sorted_result.txt
aman singh me 7.9
aman singh me 7.9
naman garg cse 9.4
prakhar agrawal cse 9.7
rajat dua ece 9.1
rajat dua ece 9.1
rishabh gupta cse 8.4
rishabh gupta cse 8.4
ignitarium@IGN-BLR-LP-215:~/linuxshell$ uniq result.txt >> sorted_result.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$ cat sorted_result.txt
aman singh me 7.9
aman singh me 7.9
naman garg cse 9.4
prakhar agrawal cse 9.7
rajat dua ece 9.1
rajat dua ece 9.1
rishabh gupta cse 8.4
rishabh gupta cse 8.4
rajat dua ece 9.1
rishabh gupta cse 8.4
prakhar agrawal cse 9.7
aman singh me 7.9
rajat dua ece 9.1
rishabh gupta cse 8.4
aman singh me 7.9
naman garg cse 9.4
ignitarium@IGN-BLR-LP-215:~/linuxshell$ uniq result.txt &> sorted_result.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$ cat sorted_result.txt
rajat dua ece 9.1
rishabh gupta cse 8.4
prakhar agrawal cse 9.7
aman singh me 7.9
rajat dua ece 9.1
rishabh gupta cse 8.4
aman singh me 7.9
naman garg cse 9.4
ignitarium@IGN-BLR-LP-215:~/linuxshell$ cat < result.txt
rajat dua ece 9.1
rishabh gupta cse 8.4
prakhar agrawal cse 9.7
aman singh me 7.9
rajat dua ece 9.1
rishabh gupta cse 8.4
aman singh me 7.9
naman garg cse 9.4
ignitarium@IGN-BLR-LP-215:~/linuxshell$ □
```

- First I have performed the '**sort**' command on the '**result.txt**' file and redirected the output into the '**sorted\_result.txt**' file using '>'.  
→ Then I performed the '**uniq**' command on the '**result.txt**' file and append the output to the existing file using '>>'.

- Now I have performed 'uniq' command on the 'result.txt' file and redirected both stdout and stderr to the same file using '&>'.
- Then I have taken input from the 'result.txt' file by redirecting stdin '<'.

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ls
2ndquestion.png  8.sh      a_sort.txt  b.txt      sorted_result.txt
3rdquestion.png  a.patch   a.txt       result.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$ sort b.txt | tee b_sort.txt
asdfghjkl
eswzsq eiedj
ihbuvgv
lkjhgfdsa ssjsjs
mnbvcxz
plmokn
poiuytrewq
qwertyuiop hhsss
tfcrdx
zxcvbnm
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ls
2ndquestion.png  3rdquestion.png  8.sh      a_patch  a_sort.txt  a.txt  b_sort.txt  b.txt  result.txt  sorted_result.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$
```

- Now using the 'tee' command I have redirected stdout to both file and console at the same time.

## 5. 5th question solution

- .bashrc file is a hidden file, use ls -a to check if that file exists or not.
- Then I have added alias command in the file for grepping the command history

## 6. 6th question solution

### Repeat last command

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ echo Bash Shortcuts
Bash Shortcuts
ignitarium@IGN-BLR-LP-215:~/linuxshell$ !!
echo Bash Shortcuts
Bash Shortcuts
ignitarium@IGN-BLR-LP-215:~/linuxshell$
```

### Repeat most recent command

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ echo Bash Shortcuts
Bash Shortcuts
ignitarium@IGN-BLR-LP-215:~/linuxshell$ wc -m /etc/bash_completion
45 /etc/bash_completion
ignitarium@IGN-BLR-LP-215:~/linuxshell$ !echo
echo Bash Shortcuts
Bash Shortcuts
ignitarium@IGN-BLR-LP-215:~/linuxshell$ echo Bash Shortcuts
Bash Shortcuts
ignitarium@IGN-BLR-LP-215:~/linuxshell$ !echo:p
echo Bash Shortcuts
ignitarium@IGN-BLR-LP-215:~/linuxshell$
```

### All arguments of last command

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ echo Bash Shortcuts
Bash Shortcuts
ignitarium@IGN-BLR-LP-215:~/linuxshell$ touch !*
touch Bash Shortcuts
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ls
2ndquestion.png  9.sh      a.txt      b.txt      Shortcuts
3rdquestion.png  a.patch   Bash        listOfFiles.txt  sorted_result.txt
8.sh             a_sort.txt b_sort.txt result.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$
```

### First argument of last command

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ echo Bash Shortcuts
Bash Shortcuts
ignitarium@IGN-BLR-LP-215:~/linuxshell$ touch !^
touch Bash
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ls
2ndquestion.png  a.patch   b_sort.txt      Shortcuts
3rdquestion.png  a_sort.txt b.txt           sorted_result.txt
8.sh             a.txt     listOfFiles.txt
9.sh            Bash      result.txt
```

### Last argument of last command

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ echo Bash Shortcuts
Bash Shortcuts
ignitarium@IGN-BLR-LP-215:~/linuxshell$ touch !$
touch Shortcuts
ignitarium@IGN-BLR-LP-215:~/linuxshell$
```

### Quick command substitution

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ echo linux command line linux command line
linux command line linux command line
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ^linux^bash^
echo bash command line linux command line
bash command line linux command line
ignitarium@IGN-BLR-LP-215:~/linuxshell$
```

### Repeat entire command line

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ^linux^bash^
echo bash command line linux command line
bash command line linux command line
ignitarium@IGN-BLR-LP-215:~/linuxshell$ echo bash command line !#
echo bash command line echo bash command line
bash command line echo bash command line
ignitarium@IGN-BLR-LP-215:~/linuxshell$
```

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## 7. No tasks

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## 8. 8th question solution

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ cat 8.sh
echo "Enter the value of n: "
read n

sum=0
echo "Enter the numbers: "
for((i=1;i<=n;i++))
do
    read num
    sum=$((sum + num))
done
echo "Sum of given numbers is: "
echo $sum
ignitarium@IGN-BLR-LP-215:~/linuxshell$ chmod +x 8.sh
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ./8.sh
Enter the value of n:
5
Enter the numbers:
3
5
2
-1
9
Sum of given numbers is:
18
ignitarium@IGN-BLR-LP-215:~/linuxshell$
```

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## 9. 9th question solution

```
ignitarium@IGN-BLR-LP-215:~/linuxshell$ gedit 9.sh &
[4] 7876
ignitarium@IGN-BLR-LP-215:~/linuxshell$ chmod +x 9.sh
ignitarium@IGN-BLR-LP-215:~/linuxshell$ ./9.sh
/home/ignitarium/linuxshell/2ndquestion.png
/home/ignitarium/linuxshell/3rdquestion.png
/home/ignitarium/linuxshell/8.sh
/home/ignitarium/linuxshell/9.sh
/home/ignitarium/linuxshell/a.patch
/home/ignitarium/linuxshell/a.txt
/home/ignitarium/linuxshell/a_sort.txt
/home/ignitarium/linuxshell/b.txt
/home/ignitarium/linuxshell/b_sort.txt
/home/ignitarium/linuxshell/listOfFiles.txt
/home/ignitarium/linuxshell/result.txt
/home/ignitarium/linuxshell/sorted_result.txt
ignitarium@IGN-BLR-LP-215:~/linuxshell$ cat 9.sh
#!/bin/sh
printf '%s\n' "$PWD"/*
ignitarium@IGN-BLR-LP-215:~/linuxshell$
```