

Ganpat University
Faculty of Engineering & Technology
Computer Science & Engineering
(2CSE204) Basics of Operating System and Shell Scripting

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Sem - 2

Branch: CS

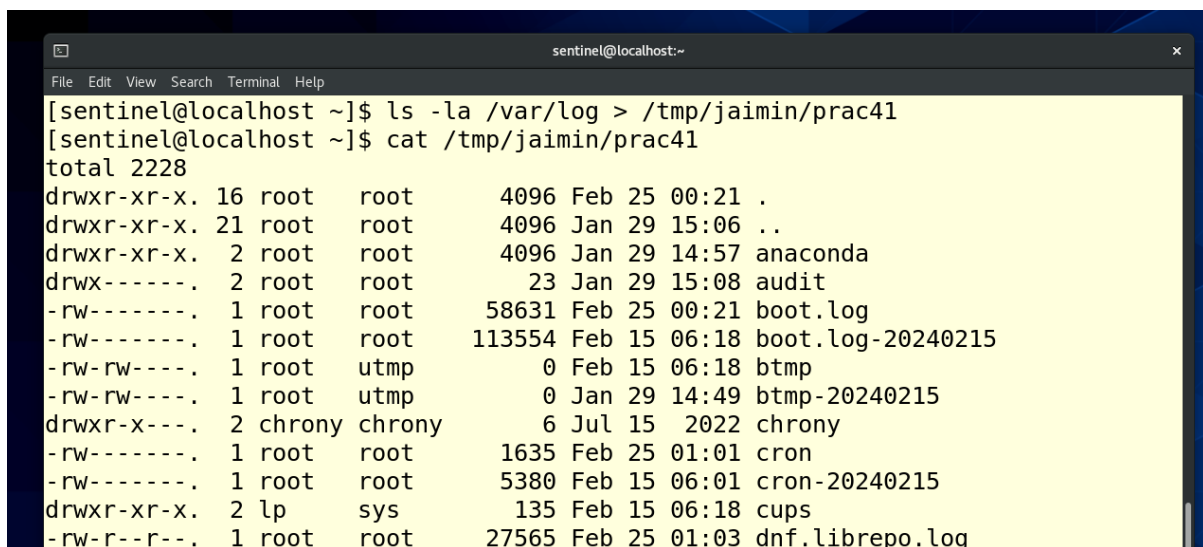
Class: B

Batch: 25

Practical 4

1. List the directories and files present at /var/log and its output should be stored in /tmp/yourname/prac41 file

Command: `ls -la /var/log > /tmp/jaimin/prac41`



```
sentinel@localhost:~$ ls -la /var/log > /tmp/jaimin/prac41
[sentinel@localhost ~]$ cat /tmp/jaimin/prac41
total 2228
drwxr-xr-x. 16 root  root    4096 Feb 25 00:21 .
drwxr-xr-x. 21 root  root    4096 Jan 29 15:06 ..
drwxr-xr-x.  2 root  root    4096 Jan 29 14:57 anaconda
drwx-----.  2 root  root      23 Jan 29 15:08 audit
-rw-----.  1 root  root   58631 Feb 25 00:21 boot.log
-rw-----.  1 root  root  113554 Feb 15 06:18 boot.log-20240215
-rw-rw----.  1 root  utmp      0 Feb 15 06:18 btmp
-rw-rw----.  1 root  utmp      0 Jan 29 14:49 btmp-20240215
drwxr-x---.  2 chrony chrony    6 Jul 15 2022 chrony
-rw-----.  1 root  root    1635 Feb 25 01:01 cron
-rw-----.  1 root  root    5380 Feb 15 06:01 cron-20240215
drwxr-xr-x.  2 lp    sys      135 Feb 15 06:18 cups
-rw-r--r--.  1 root  root   27565 Feb 25 01:03 dnf.librepo.log
```

2. Store the first 10 lines of /etc/passwd file in /tmp/yourname/prac42 file and also display the last 5 lines from those 10 lines on terminal. Both the operations should execute at the same time.

Command: `head -n 10 /etc/passwd > /tmp/jaimin/prac42 && tail -n 5 /tmp/jaimin/prac42`

```
sentinel@localhost:~  
File Edit View Search Terminal Help  
-rw-r--r-- 1 root root 22897 Jan 29 15:10 Xorg.9.log  
[sentinel@localhost ~]$ head -n 10 /etc/passwd > /tmp/jaimin/prac42 && tail -n 5 /tmp/jaimin/prac42  
sync:x:5:0:sync:/sbin:/bin/sync  
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown  
halt:x:7:0:halt:/sbin:/sbin/halt  
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin  
operator:x:11:0:operator:/root:/sbin/nologin  
[sentinel@localhost ~]$ cat /tmp/jaimin/prac42  
root:x:0:0:root:/root:/bin/bash  
bin:x:1:1:bin:/bin:/sbin/nologin  
daemon:x:2:2:daemon:/sbin:/sbin/nologin  
adm:x:3:4:adm:/var/adm:/sbin/nologin  
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin  
sync:x:5:0:sync:/sbin:/bin/sync  
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown  
halt:x:7:0:halt:/sbin:/sbin/halt  
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin  
operator:x:11:0:operator:/root:/sbin/nologin  
[sentinel@localhost ~]$ _
```

3. List all the files and directories present in /etc directory whose name starts with a, c and e. This output should be stored in /tmp/yourname/prac33 in such a way that previous content of the file does not get affected.

Command: `ls -d /etc/[ace]* >> /tmp/jaimin/prac33`

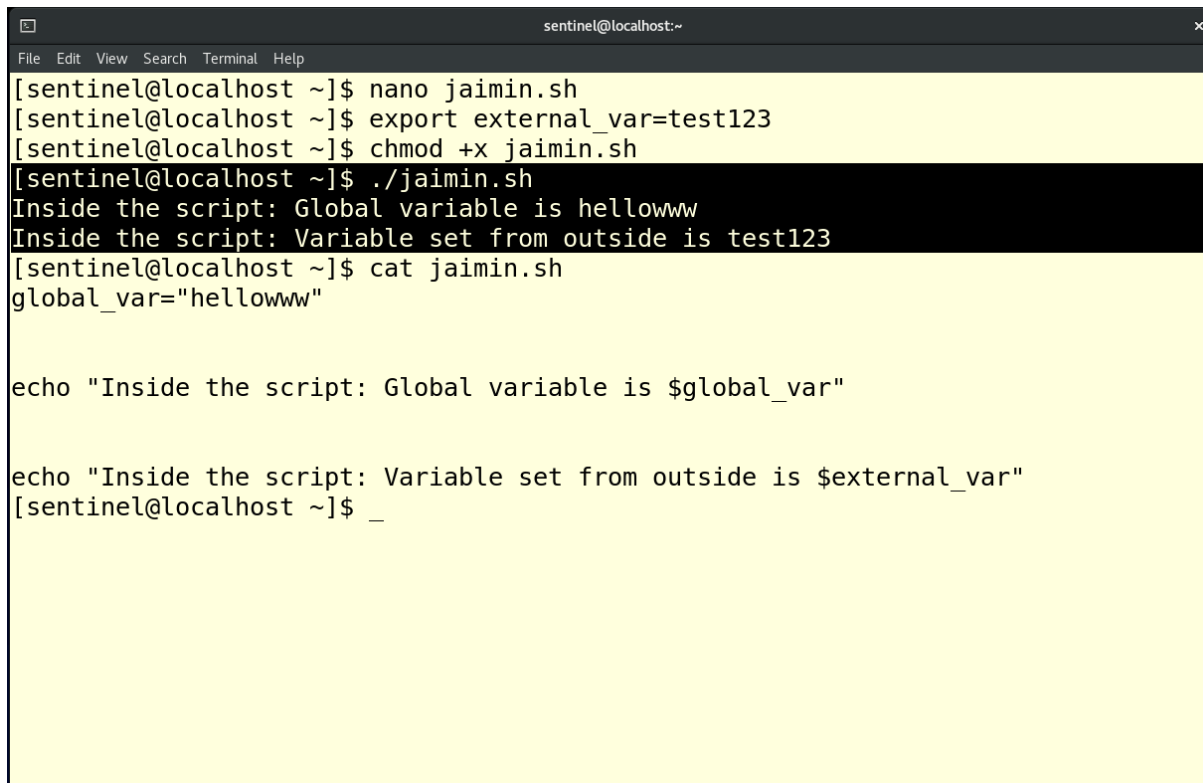
```
sentinel@localhost:~  
File Edit View Search Terminal Help  
[sentinel@localhost ~]$ ls -d /etc/[ace]* >> /tmp/jaimin/prac33  
[sentinel@localhost ~]$ cat /tmp/jaimin/prac33  
/etc/accountsservice  
/etc/adjtime  
/etc/aliases  
/etc/alsa  
/etc/alternatives  
/etc/anaconda  
/etc/anacrontab  
/etc/asound.conf  
/etc/at.deny  
/etc/audit  
/etc/authselect  
/etc/avahi
```

4. Generate some error by using false command but that error should neither be displayed on terminal nor stored in any file.

Command: `jaimin > /dev/null 2>&1`

```
sentinel@localhost:~  
File Edit View Search Terminal Help  
[sentinel@localhost ~]$ jaimin > /dev/null 2>&1  
[sentinel@localhost ~]$
```

5. Demonstrate the usage of shell and environment variables with a suitable example.

A terminal window titled 'sentinel@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
[sentinel@localhost ~]$ nano jaimin.sh
[sentinel@localhost ~]$ export external_var=test123
[sentinel@localhost ~]$ chmod +x jaimin.sh
[sentinel@localhost ~]$ ./jaimin.sh
Inside the script: Global variable is helloworld
Inside the script: Variable set from outside is test123
[sentinel@localhost ~]$ cat jaimin.sh
global_var="helloworld"

echo "Inside the script: Global variable is $global_var"

echo "Inside the script: Variable set from outside is $external_var"
[sentinel@localhost ~]$ _
```