

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

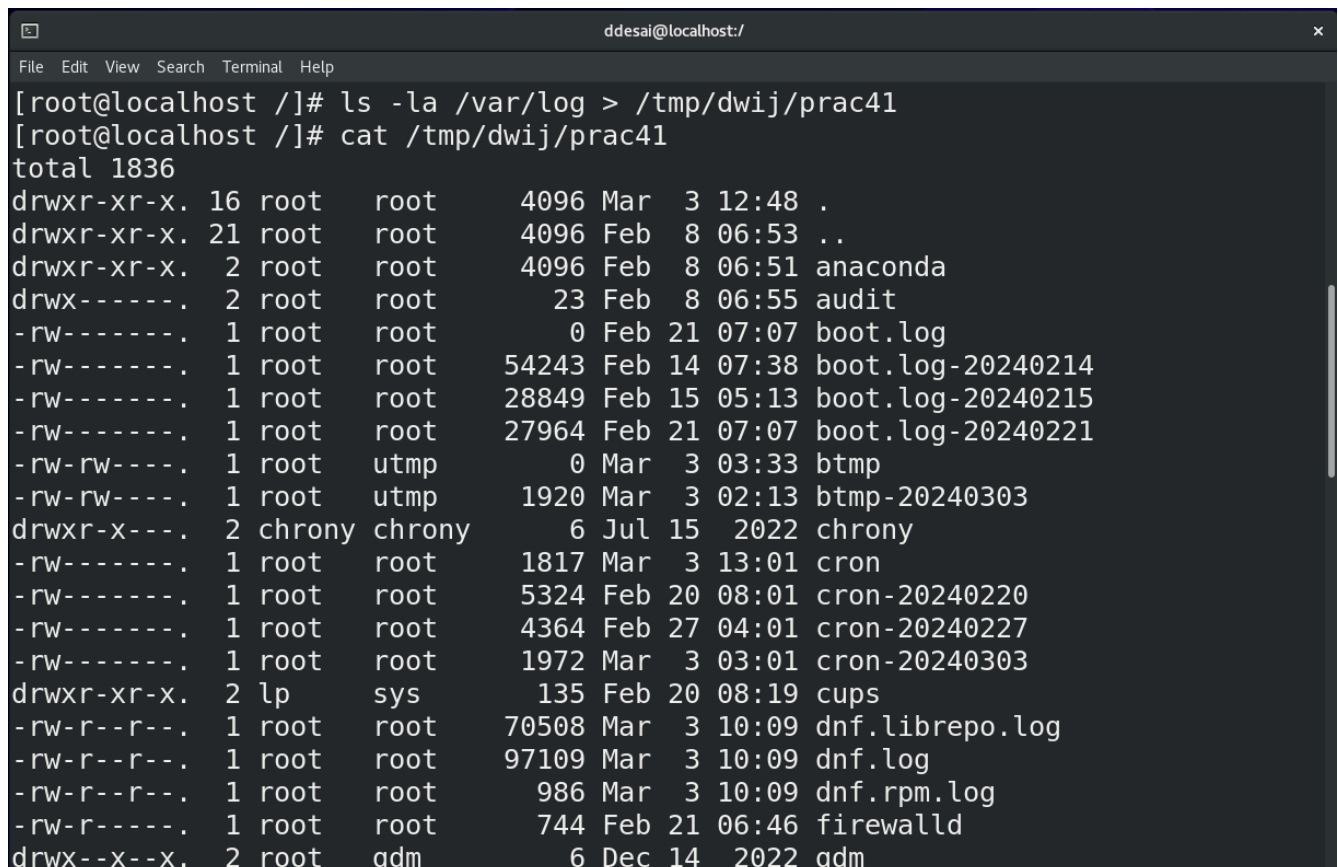
Practical 4

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Prac:- 4
Date:- 3/3/2024

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/dwij/prac41`
`cat /tmp/dwij/prac41`

Image:-



```
ddesai@localhost: /
File Edit View Search Terminal Help
[root@localhost /]# ls -la /var/log > /tmp/dwij/prac41
[root@localhost /]# cat /tmp/dwij/prac41
total 1836
drwxr-xr-x. 16 root    root      4096 Mar  3 12:48 .
drwxr-xr-x. 21 root    root      4096 Feb  8 06:53 ..
drwxr-xr-x.  2 root    root      4096 Feb  8 06:51 anaconda
drwx-----.  2 root    root        23 Feb  8 06:55 audit
-rw-----.  1 root    root         0 Feb 21 07:07 boot.log
-rw-----.  1 root    root    54243 Feb 14 07:38 boot.log-20240214
-rw-----.  1 root    root   28849 Feb 15 05:13 boot.log-20240215
-rw-----.  1 root    root   27964 Feb 21 07:07 boot.log-20240221
-rw-rw----.  1 root    utmp         0 Mar  3 03:33 btmp
-rw-rw----.  1 root    utmp    1920 Mar  3 02:13 btmp-20240303
drwxr-x---.  2 chrony  chrony     6 Jul 15  2022 chrony
-rw-----.  1 root    root    1817 Mar  3 13:01 cron
-rw-----.  1 root    root    5324 Feb 20 08:01 cron-20240220
-rw-----.  1 root    root    4364 Feb 27 04:01 cron-20240227
-rw-----.  1 root    root    1972 Mar  3 03:01 cron-20240303
drwxr-xr-x.  2 lp      sys       135 Feb 20 08:19 cups
-rw-r--r--.  1 root    root   70508 Mar  3 10:09 dnf.librepo.log
-rw-r--r--.  1 root    root   97109 Mar  3 10:09 dnf.log
-rw-r--r--.  1 root    root    986 Mar  3 10:09 dnf.rpm.log
-rw-r-----.  1 root    root    744 Feb 21 06:46 firewalld
drwx--x--x.  2 root    gdm        6 Dec 14  2022 gdm
```

```

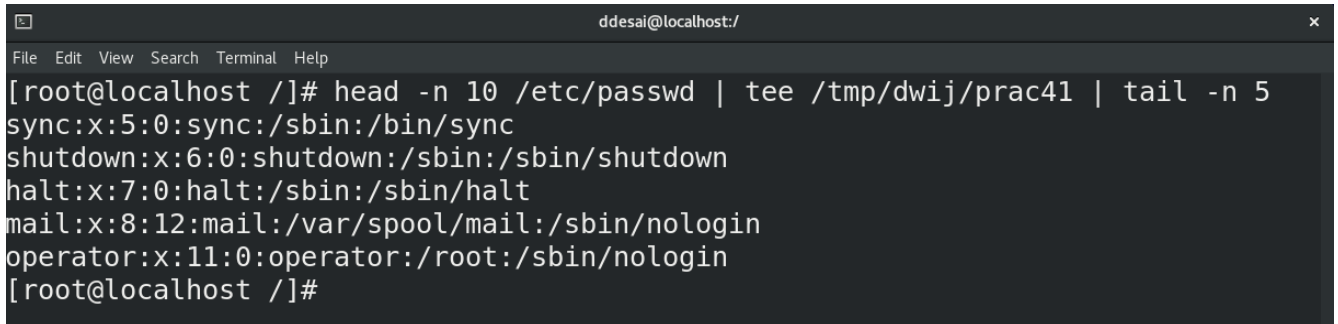
drwxr-xr-x. 2 root root 6 Aug 31 2021 glusterfs
-rw-r--r--. 1 root root 120 Mar 3 10:09 hawkey.log
-rw-r--r--. 1 root root 180 Feb 15 04:59 hawkey.log-20240220
-rw-r--r--. 1 root root 240 Feb 26 11:17 hawkey.log-20240227
-rw-r--r--. 1 root root 180 Mar 3 02:49 hawkey.log-20240303
-rw-----. 1 root root 2524 Feb 21 06:46 kdump.log
-rw-rw-r--. 1 root utmp 292584 Mar 3 12:58 lastlog
drwx-----. 3 root root 18 Feb 8 06:35 libvirt
-rw-----. 1 root root 0 Mar 3 03:33 maillog
-rw-----. 1 root root 0 Feb 8 06:34 maillog-20240220
-rw-----. 1 root root 0 Feb 20 08:19 maillog-20240227
-rw-----. 1 root root 0 Feb 27 04:11 maillog-20240303
-rw-----. 1 root root 28741 Mar 3 13:03 messages
-rw-----. 1 root root 910428 Feb 20 08:15 messages-20240220
-rw-----. 1 root root 320823 Feb 27 04:05 messages-20240227
-rw-----. 1 root root 61170 Mar 3 03:30 messages-20240303
drwx-----. 2 root root 6 Feb 8 06:25 private
drwxr-xr-x. 2 root root 6 Jan 31 2023 qemu-ga
drwx-----. 3 root root 17 Feb 8 06:26 samba
-rw-----. 1 root root 2274 Mar 3 12:58 secure
-rw-----. 1 root root 10661 Feb 20 08:15 secure-20240220
-rw-----. 1 root root 3876 Feb 27 03:51 secure-20240227
-rw-----. 1 root root 4898 Mar 3 03:30 secure-20240303
drwx-----. 2 root root 6 May 17 2019 speech-dispatcher
-rw-----. 1 root root 0 Mar 3 03:33 spooler
-rw-----. 1 root root 0 Feb 8 06:34 spooler-20240220
-rw-----. 1 root root 0 Feb 20 08:19 spooler-20240227
-rw-----. 1 root root 0 Feb 27 04:11 spooler-20240303
drwxr-x--. 2 sssd sssd 87 Mar 3 03:33 sssd
drwxr-xr-x. 3 root root 21 Feb 8 06:35 swtpm
drwxr-xr-x. 2 root root 23 Feb 8 06:55 tuned
-rw-r--r--. 1 root root 187 Mar 3 10:22 vmware-network.1.log
-rw-r--r--. 1 root root 358 Mar 3 05:24 vmware-network.2.log
-rw-r--r--. 1 root root 187 Mar 3 03:43 vmware-network.3.log
-rw-r--r--. 1 root root 358 Mar 3 03:28 vmware-network.4.log
-rw-r--r--. 1 root root 187 Mar 3 03:02 vmware-network.5.log
-rw-r--r--. 1 root root 358 Mar 3 02:13 vmware-network.6.log
-rw-r--r--. 1 root root 189 Feb 29 00:23 vmware-network.7.log
-rw-r--r--. 1 root root 363 Feb 28 22:47 vmware-network.8.log
-rw-r--r--. 1 root root 189 Feb 28 02:29 vmware-network.9.log
-rw-r--r--. 1 root root 358 Mar 3 12:48 vmware-network.log
-rw-----. 1 root root 6486 Feb 21 06:46 vmware-vgauthsvc.log.0
-rw-----. 1 root root 27851 Mar 3 12:48 vmware-vmSvc-root.log
-rw-----. 1 root root 2116 Feb 21 06:46 vmware-vmtoolsd-root.log
-rw-rw-r--. 1 root utmp 7296 Feb 21 06:47 wtmp
-rw-r--r--. 1 root root 22897 Feb 8 07:00 Xorg.9.log
[root@localhost ~]#

```

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 | tee /tmp/dwij/prac41 | tail -n 5

Image:-

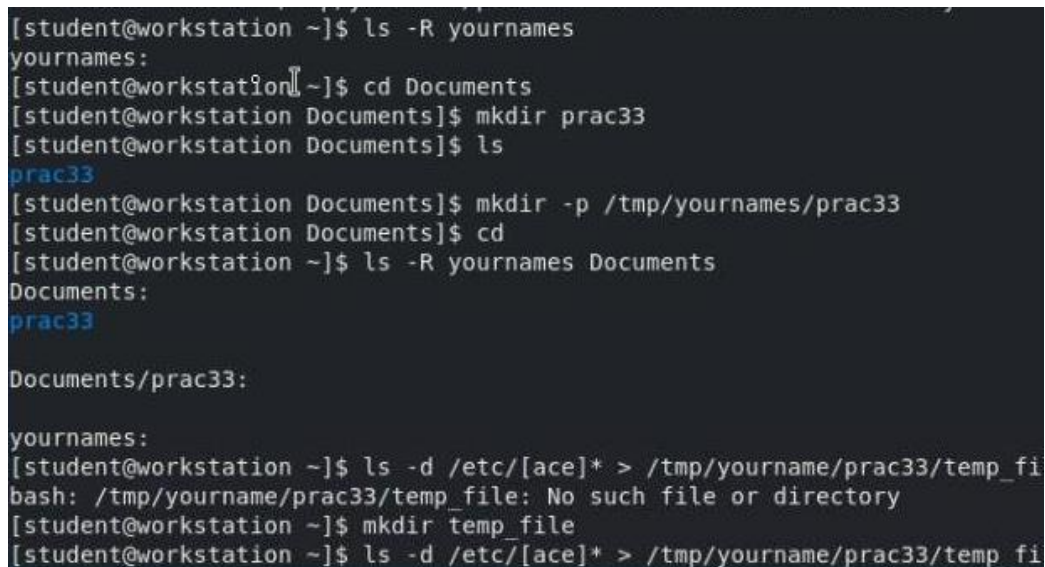


```
ddesai@localhost:/  
File Edit View Search Terminal Help  
[root@localhost ~]# head -n 10 /etc/passwd | tee /tmp/dwij/prac41 | tail -n 5  
sync:x:5:0:sync:/sbin:/bin/sync  
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown  
halt:x:7:0:halt:/sbin:/sbin/halt  
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin  
operator:x:11:0:operator:/root:/sbin/nologin  
[root@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 -R yourname

Image:-



```
[student@workstation ~]$ ls -R yournames  
yournames:  
[student@workstation ~]$ cd Documents  
[student@workstation Documents]$ mkdir prac33  
[student@workstation Documents]$ ls  
prac33  
[student@workstation Documents]$ mkdir -p /tmp/yournames/prac33  
[student@workstation Documents]$ cd  
[student@workstation ~]$ ls -R yournames Documents  
Documents:  
prac33  
Documents/prac33:  
yournames:  
[student@workstation ~]$ ls -d /etc/[ace]* > /tmp/yourname/prac33/temp_file  
bash: /tmp/yourname/prac33/temp_file: No such file or directory  
[student@workstation ~]$ mkdir temp_file  
[student@workstation ~]$ ls -d /etc/[ace]* > /tmp/yourname/prac33/temp_file
```

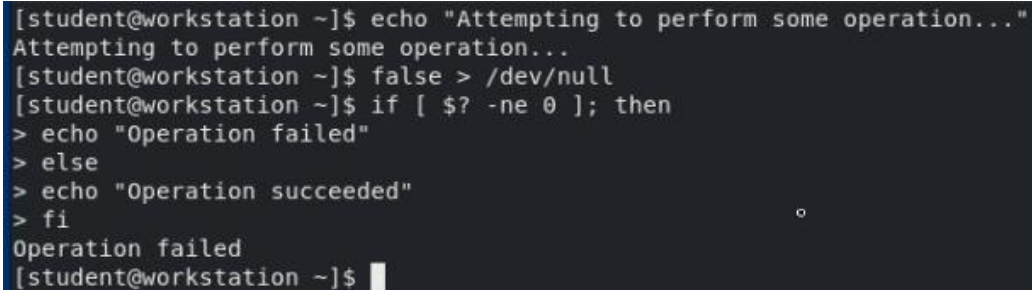
```
bash: /tmp/yourname/prac33/temp_file: No such file or directory
[student@workstation ~]$ ls -d /etc/[ace]* > /tmp/yournames/prac33/temp_file
[student@workstation ~]$ cat yourname
cat: yourname: Is a directory
[student@workstation ~]$ mv /tmp/yournames/prac33/temp_file /tmp/yournames/prac33/prac33
[student@workstation ~]$ cat /tmp/yournames/prac33/prac33
/etc/adjtime
/etc/aliases
/etc/alsa
/etc/alternatives
/etc/anacrontab
/etc/ansible
/etc/asound.conf
/etc/at.deny
/etc/audit
/etc/authselect
/etc/avahi
/etc/chkconfig.d
/etc/chromium
/etc/chrony.conf
/etc/chrony.conf-prerht
/etc/chrony.conf-rht
/etc/chrony.keys
```

```
/etc/cifs-utils
/etc/cloud
/etc/cockpit
/etc/cron.d
/etc/cron.daily
/etc/cron.deny
/etc/cron.hourly
/etc/cron.monthly
/etc/crontab
/etc/cron.weekly
/etc/crypto-policies
/etc/crypttab
/etc/csh.cshrc
/etc/csh.login
/etc/cups
/etc/cupshelpers
/etc/egl
/etc/enscript.cfg
/etc/environment
/etc/ethertypes
/etc/exports
/etc/exports.d
[student@workstation ~]$
```

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

Command:- false > /dev/null

Image:-

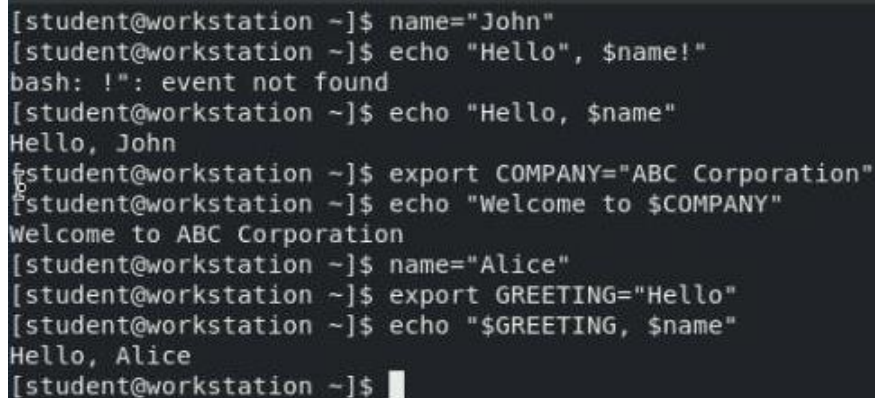


```
[student@workstation ~]$ echo "Attempting to perform some operation..."
Attempting to perform some operation...
[student@workstation ~]$ false > /dev/null
[student@workstation ~]$ if [ $? -ne 0 ]; then
> echo "Operation failed"
> else
> echo "Operation succeeded"
> fi
Operation failed
[student@workstation ~]$
```

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

Command:- export COMPANY="ABC Corporation"

Image:-



```
[student@workstation ~]$ name="John"
[student@workstation ~]$ echo "Hello", $name!
bash: !": event not found
[student@workstation ~]$ echo "Hello, $name"
Hello, John
[student@workstation ~]$ export COMPANY="ABC Corporation"
[student@workstation ~]$ echo "Welcome to $COMPANY"
Welcome to ABC Corporation
[student@workstation ~]$ name="Alice"
[student@workstation ~]$ export GREETING="Hello"
[student@workstation ~]$ echo "$GREETING, $name"
Hello, Alice
[student@workstation ~]$
```