Ex No: 1

BASIC LINUX COMMANDS

```
eshwaranm@fedora:~$ date +%m
04
eshwaranm@fedora:~$ date +%h
Apr
eshwaranm@fedora:~$ date +%d
19
eshwaranm@fedora:~$ date +%y
25
eshwaranm@fedora:~$ date +%H
16
eshwaranm@fedora:~$ date +%M
40
eshwaranm@fedora:~$ date +%S
41
eshwaranm@fedora:~$ echo I am REC student
I am REC student
eshwaranm@fedora:~$ cal jan 2021
    January 2021
Su Mo Tu We Th Fr Sa
                1  2
 3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31
eshwaranm@fedora:~$ bc
bc 1.07.1
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006, 2008, 2012-2017 Free Software Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type `warranty'.
16/2
8

eshwaranm@fedora:~$ who
eshwaranm tty2         2025-04-19 16:35
eshwaranm pts/0        2025-04-19 16:35 (:0)
eshwaranm pts/1        2025-04-19 16:39 (:0)
eshwaranm@fedora:~$ who am i
eshwaranm pts/1        2025-04-19 16:39 (:0)
eshwaranm@fedora:~$ id
uid=1000(eshwaranm) gid=1000(eshwaranm) groups=1000(eshwaranm),10(wheel) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
eshwaranm@fedora:~$ tty
/dev/pts/1
eshwaranm@fedora:~$ man
What manual page do you want?
For example, try 'man man'.
eshwaranm@fedora:~$ man date
eshwaranm@fedora:~$ clear
```

```
eshwaranm@fedora:~$ ps
    PID TTY          TIME CMD
   2817 pts/1    00:00:00 bash
   2991 pts/1    00:00:00 ps
eshwaranm@fedora:~$ ps -e
    PID TTY          TIME CMD
      1 ?        00:00:01 systemd
      2 ?        00:00:00 kthreadd
      3 ?        00:00:00 pool_workqueue_release
      4 ?        00:00:00 kworker/R-rcu_gp
      5 ?        00:00:00 kworker/R-sync_wq
      6 ?        00:00:00 kworker/R-slub_flushwq
      7 ?        00:00:00 kworker/R-netns
      8 ?        00:00:00 kworker/0:0-cgroup_destroy
      9 ?        00:00:00 kworker/0:0H-events_highpri
     10 ?        00:00:00 kworker/0:1-events
     11 ?        00:00:00 kworker/u512:0-events_unbound
     12 ?        00:00:00 kworker/R-mm_percpu_wq
     13 ?        00:00:00 kworker/u512:1-ipv6_addrconf
     14 ?        00:00:00 rcu_tasks_kthread
     15 ?        00:00:00 rcu_tasks_rude_kthread
     16 ?        00:00:00 rcu_tasks_trace_kthread
     17 ?        00:00:00 ksoftirqd/0
     18 ?        00:00:00 rcu_preempt
     19 ?        00:00:00 rcu_exp_par_gp_kthread_worker/1
     20 ?        00:00:00 rcu_exp_gp_kthread_worker
     21 ?        00:00:00 migration/0
     22 ?        00:00:00 idle_inject/0
     23 ?        00:00:00 cpuhp/0
     24 ?        00:00:00 cpuhp/1
     25 ?        00:00:00 idle_inject/1
     26 ?        00:00:00 migration/1
     27 ?        00:00:00 ksoftirqd/1
     29 ?        00:00:00 kworker/1:0H-events_highpri
     30 ?        00:00:00 cpuhp/2
     31 ?        00:00:00 idle_inject/2
     32 ?        00:00:00 migration/2
     33 ?        00:00:00 ksoftirqd/2
     35 ?        00:00:00 kworker/2:0H-events_highpri
     36 ?        00:00:00 cpuhp/3
     37 ?        00:00:00 idle_inject/3
     38 ?        00:00:00 migration/3
     39 ?        00:00:00 ksoftirqd/3
     41 ?        00:00:00 kworker/3:0H-events_highpri
     42 ?        00:00:00 kworker/u513:0-flush-btrfs-1
     43 ?        00:00:00 kworker/u514:0-flush-btrfs-1
     46 ?        00:00:00 kdevtmpfs
```

```
 2899 ?        00:00:00 kworker/0:2
 2900 ?        00:00:00 kworker/3:0-events
 2904 ?        00:00:00 kworker/u520:11-ttm
 2905 ?        00:00:00 kworker/u520:15-ttm
 2906 ?        00:00:00 kworker/2:0-events
 2942 ?        00:00:00 kworker/u516:0+events_unbound
 2947 ?        00:00:00 kworker/u521:9-ttm
 2948 ?        00:00:00 kworker/u521:11-ttm
 2949 ?        00:00:00 kworker/u521:13-ttm
 2950 ?        00:00:00 kworker/u521:14-ttm
 2951 ?        00:00:00 kworker/u521:16
 2966 ?        00:00:00 kworker/u520:16
 2992 pts/1    00:00:00 ps
eshwaranm@fedora:~$ ps -aux
USER       PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.3  0.3  63584 25452 ?        Ss   16:35   0:01 /usr/lib/systemd/systemd --switched-root --system --deserialize=51 rhgb
root         2  0.0  0.0      0     0 ?        S    16:35   0:00 [kthreadd]
root         3  0.0  0.0      0     0 ?        S    16:35   0:00 [pool_workqueue_release]
root         4  0.0  0.0      0     0 ?        I<   16:35   0:00 [kworker/R-rcu_gp]
root         5  0.0  0.0      0     0 ?        I<   16:35   0:00 [kworker/R-sync_wq]
root         6  0.0  0.0      0     0 ?        I<   16:35   0:00 [kworker/R-slub_flushwq]
root         7  0.0  0.0      0     0 ?        I<   16:35   0:00 [kworker/R-netns]
root         8  0.0  0.0      0     0 ?        I    16:35   0:00 [kworker/0:0-cgroup_destroy]
root         9  0.0  0.0      0     0 ?        I<   16:35   0:00 [kworker/0:0H-events_highpri]
root        10  0.0  0.0      0     0 ?        I    16:35   0:00 [kworker/0:1-events]
root        11  0.0  0.0      0     0 ?        I    16:35   0:00 [kworker/u512:0-events_unbound]
root        12  0.0  0.0      0     0 ?        I<   16:35   0:00 [kworker/R-mm_percpu_wq]
root        13  0.0  0.0      0     0 ?        I    16:35   0:00 [kworker/u512:1-ipv6_addrconf]
root        14  0.0  0.0      0     0 ?        I    16:35   0:00 [rcu_tasks_kthread]
root        15  0.0  0.0      0     0 ?        I    16:35   0:00 [rcu_tasks_rude_kthread]
root        16  0.0  0.0      0     0 ?        I    16:35   0:00 [rcu_tasks_trace_kthread]
root        17  0.0  0.0      0     0 ?        S    16:35   0:00 [ksoftirqd/0]
root        18  0.0  0.0      0     0 ?        I    16:35   0:00 [rcu_preempt]
root        19  0.0  0.0      0     0 ?        S    16:35   0:00 [rcu_exp_par_gp_kthread_worker/1]
root        20  0.0  0.0      0     0 ?        S    16:35   0:00 [rcu_exp_gp_kthread_worker]
root        21  0.0  0.0      0     0 ?        S    16:35   0:00 [migration/0]
root        22  0.0  0.0      0     0 ?        S    16:35   0:00 [idle_inject/0]
root        23  0.0  0.0      0     0 ?        S    16:35   0:00 [cpuhp/0]
root        24  0.0  0.0      0     0 ?        S    16:35   0:00 [cpuhp/1]
root        25  0.0  0.0      0     0 ?        S    16:35   0:00 [idle_inject/1]
root        26  0.1  0.0      0     0 ?        S    16:35   0:00 [migration/1]
root        27  0.0  0.0      0     0 ?        S    16:35   0:00 [ksoftirqd/1]
root        29  0.0  0.0      0     0 ?        I<   16:35   0:00 [kworker/1:0H-events_highpri]
root        30  0.0  0.0      0     0 ?        S    16:35   0:00 [cpuhp/2]
root        31  0.0  0.0      0     0 ?        S    16:35   0:00 [idle_inject/2]
root        32  0.1  0.0      0     0 ?        S    16:35   0:00 [migration/2]
root        33  0.0  0.0      0     0 ?        S    16:35   0:00 [ksoftirqd/2]
```

```
eshwaranm@fedora:~$ uname -n
fedora
eshwaranm@fedora:~$ uname -r
6.11.4-301.fc41.x86_64
eshwaranm@fedora:~$ uname -s
Linux
eshwaranm@fedora:~$ uname -v
#1 SMP PREEMPT_DYNAMIC Sun Oct 20 15:02:33 UTC 2024
eshwaranm@fedora:~$ uname -a
Linux fedora 6.11.4-301.fc41.x86_64 #1 SMP PREEMPT_DYNAMIC Sun Oct 20 15:02:33 UTC 2024 x86_64 GNU/Linux
eshwaranm@fedora:~$ pwd
/home/eshwaranm
eshwaranm@fedora:~$ mkdir recces
eshwaranm@fedora:~$ rmdir recces
eshwaranm@fedora:~$ mkdir reccse
eshwaranm@fedora:~$ cd reccse
eshwaranm@fedora:~/reccse$ ls
eshwaranm@fedora:~/reccse$ ls -l
total 0
eshwaranm@fedora:~/reccse$ ls -a
.  ..
eshwaranm@fedora:~/reccse$ cat -rec
cat: invalid option -- 'r'
Try 'cat --help' for more information.
eshwaranm@fedora:~/reccse$ cat >rec
Hi this is Dhekshath From RECeshwaranm@fedora:~/reccse$ cat rec
Hi this is Dhekshath From RECeshwaranm@fedora:~/reccse$ rm reccse
rm: cannot remove 'reccse': No such file or directory
eshwaranm@fedora:~/reccse$ rm rec
eshwaranm@fedora:~/reccse$ who |wc -l
3
eshwaranm@fedora:~/reccse$ who | tee sample | wc -l
3
eshwaranm@fedora:~/reccse$ chmod u-wx college
chmod: cannot access 'college': No such file or directory
eshwaranm@fedora:~/reccse$
eshwaranm@fedora:~/reccse$ chmod 761 college
chmod: cannot access 'college': No such file or directory
eshwaranm@fedora:~/reccse$
eshwaranm@fedora:~/reccse$ who; date
eshwaranm tty2         2025-04-19 16:35
eshwaranm pts/0        2025-04-19 16:35 (:0)
eshwaranm pts/1        2025-04-19 16:39 (:0)
Sat Apr 19 04:54:07 PM IST 2025
eshwaranm@fedora:~/reccse$ who || date
eshwaranm tty2         2025-04-19 16:35
eshwaranm pts/0        2025-04-19 16:35 (:0)
eshwaranm pts/1        2025-04-19 16:39 (:0)
eshwaranm@fedora:~/reccse$
```

```
eshwaranm@fedora:~$ who $$ date
eshwaranm pts/2          2025-04-19 17:08 (:0)
eshwaranm@fedora:~$ pws
bash: pws: command not found...
eshwaranm@fedora:~$ pts
bash: pts: command not found...
eshwaranm@fedora:~$ free -t
               total         used         free       shared   buff/cache    available
Mem:         8074724      2179720      4675332        29368      1495836      5895004
Swap:        8074236            0      8074236
Total:      16148960      2179720     12749568
eshwaranm@fedora:~$ ps -e
    PID TTY          TIME CMD
      1 ?        00:00:01 systemd
      2 ?        00:00:00 kthreadd
      3 ?        00:00:00 pool_workqueue_release
      4 ?        00:00:00 kworker/R-rcu_gp
      5 ?        00:00:00 kworker/R-sync_wq
      6 ?        00:00:00 kworker/R-slub_flushwq
      7 ?        00:00:00 kworker/R-netns
      9 ?        00:00:00 kworker/0:0H-events_highpri
     10 ?        00:00:00 kworker/0:1-cgroup_destroy
     11 ?        00:00:00 kworker/u512:0-events_unbound
     12 ?        00:00:00 kworker/R-mm_percpu_wq
     13 ?        00:00:00 kworker/u512:1-ipv6_addrconf
     14 ?        00:00:00 rcu_tasks_kthread
     15 ?        00:00:00 rcu_tasks_rude_kthread
     16 ?        00:00:00 rcu_tasks_trace_kthread
     17 ?        00:00:00 ksoftirqd/0
     18 ?        00:00:00 rcu_preempt
     19 ?        00:00:00 rcu_exp_par_gp_kthread_worker/1
     20 ?        00:00:00 rcu_exp_gp_kthread_worker
     21 ?        00:00:00 migration/0
     22 ?        00:00:00 idle_inject/0
     23 ?        00:00:00 cpuhp/0
     24 ?        00:00:00 cpuhp/1
     25 ?        00:00:00 idle_inject/1
     26 ?        00:00:00 migration/1
     27 ?        00:00:00 ksoftirqd/1
     29 ?        00:00:00 kworker/1:0H-events_highpri
     30 ?        00:00:00 cpuhp/2
     31 ?        00:00:00 idle_inject/2
     32 ?        00:00:00 migration/2
     33 ?        00:00:00 ksoftirqd/2
     35 ?        00:00:00 kworker/2:0H-events_highpri
     36 ?        00:00:00 cpuhp/3
     37 ?        00:00:00 idle_inject/3
```

```
    3501 ?        00:00:00 kworker/u514:4-flush-btrfs-1
    3502 ?        00:00:00 kworker/1:0-events
    3503 ?        00:00:00 systemd-nsresou
    3504 ?        00:00:00 systemd-userwor
    3507 ?        00:00:00 systemd-nsresou
    3508 ?        00:00:00 systemd-nsresou
    3509 ?        00:00:00 systemd-userwor
    3510 ?        00:00:00 systemd-nsresou
    3511 ?        00:00:00 systemd-userwor
    3512 ?        00:00:00 systemd-nsresou
    3517 ?        00:00:00 kworker/u520:0-ttm
    3518 ?        00:00:00 kworker/u520:1-ttm
    3519 ?        00:00:00 kworker/u518:0-ttm
    3536 ?        00:00:00 kworker/u519:0-ttm
    3537 ?        00:00:00 kworker/u519:1-ttm
    3538 ?        00:00:00 kworker/u519:2-ttm
    3539 ?        00:00:00 kworker/u519:5-ttm
    3541 ?        00:00:00 kworker/u519:6-ttm
    3547 ?        00:00:00 kworker/2:1-events
    3550 ?        00:00:00 kworker/u513:1-btrfs-endio-write
    3572 ?        00:00:00 kworker/u521:0-ttm
    3573 ?        00:00:00 kworker/u518:2-ttm
    3574 ?        00:00:00 kworker/u518:3-ttm
    3575 ?        00:00:00 kworker/u518:4-ttm
    3576 ?        00:00:00 kworker/u518:5-ttm
    3577 ?        00:00:00 kworker/u518:7-ttm
    3578 ?        00:00:00 kworker/u518:8-ttm
    3579 ?        00:00:00 kworker/u518:9-ttm
    3580 ?        00:00:00 kworker/u518:10
    3581 ?        00:00:00 kworker/u518:11
    3582 ?        00:00:00 kworker/u519:7-ttm
    3583 ?        00:00:00 kworker/u519:8-ttm
    3584 ?        00:00:00 kworker/u519:9-ttm
    3585 ?        00:00:00 kworker/u519:10-ttm
    3586 ?        00:00:00 kworker/u519:11-ttm
    3587 ?        00:00:00 kworker/u519:12-ttm
    3588 ?        00:00:00 kworker/u519:13-ttm
    3589 ?        00:00:00 kworker/u519:14-ttm
    3590 ?        00:00:00 kworker/u519:15-ttm
    3594 ?        00:00:00 kworker/3:2-events_freezable_pwr_efficient
    3596 pts/2    00:00:00 bash
    3634 ?        00:00:01 packagekitd
    3649 ?        00:00:00 kworker/u515:2-flush-btrfs-1
    3651 pts/2    00:00:00 ps
eshwaranm@fedora:~$ vmstst
bash: vmstst: command not found...
eshwaranm@fedora:~$ vmstat
procs -----------memory---------- ---swap-- -----io---- -system-- -------cpu-------
 r  b   swpd   free   buff  cache   si   so    bi    bo   in   cs us sy id wa st gu
 1  0      0 4672904   4644 1491332    0    0   334   156  561    2  1  1 98  0  0  0
eshwaranm@fedora:~$
```

```
   3573 ?        00:00:00 kworker/u518:2-ttm
   3574 ?        00:00:00 kworker/u518:3-ttm
   3575 ?        00:00:00 kworker/u518:4-ttm
   3576 ?        00:00:00 kworker/u518:5-ttm
   3577 ?        00:00:00 kworker/u518:7-ttm
   3578 ?        00:00:00 kworker/u518:8-ttm
   3579 ?        00:00:00 kworker/u518:9-ttm
   3580 ?        00:00:00 kworker/u518:10
   3581 ?        00:00:00 kworker/u518:11
   3582 ?        00:00:00 kworker/u519:7-ttm
   3583 ?        00:00:00 kworker/u519:8-ttm
   3584 ?        00:00:00 kworker/u519:9-ttm
   3585 ?        00:00:00 kworker/u519:10-ttm
   3586 ?        00:00:00 kworker/u519:11-ttm
   3587 ?        00:00:00 kworker/u519:12-ttm
   3588 ?        00:00:00 kworker/u519:13-ttm
   3589 ?        00:00:00 kworker/u519:14-ttm
   3590 ?        00:00:00 kworker/u519:15-ttm
   3594 ?        00:00:00 kworker/3:2-events_freezable_pwr_efficient
   3596 pts/2    00:00:00 bash
   3634 ?        00:00:01 packagekitd
   3649 ?        00:00:00 kworker/u515:2-flush-btrfs-1
   3651 pts/2    00:00:00 ps
eshwaranm@fedora:~$ vmstst
bash: vmstst: command not found...
eshwaranm@fedora:~$ vmstat
procs -----------memory---------- ---swap-- -----io---- -system-- -------cpu-------
 r  b   swpd   free   buff  cache   si   so    bi    bo   in   cs us sy id wa st gu
 1  0      0 4672904   4644 1491332    0    0   334   156  561    2  1  1 98  0  0  0
eshwaranm@fedora:~$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
/dev/nvme0n1p3  51377152 4472040  46311000   9% /
devtmpfs            4096       0      4096   0% /dev
tmpfs            4037360      12   4037348   1% /dev/shm
tmpfs            1614948    1780   1613168   1% /run
tmpfs               1024       0      1024   0% /run/credentials/systemd-network-generator.service
tmpfs               1024       0      1024   0% /run/credentials/systemd-udev-load-credentials.service
tmpfs               1024       0      1024   0% /run/credentials/systemd-journald.service
tmpfs               1024       0      1024   0% /run/credentials/systemd-tmpfiles-setup-dev-early.service
tmpfs               1024       0      1024   0% /run/credentials/systemd-sysctl.service
tmpfs               1024       0      1024   0% /run/credentials/systemd-tmpfiles-setup-dev.service
tmpfs            4037364       4   4037360   1% /tmp
/dev/nvme0n1p3  51377152 4472040  46311000   9% /home
/dev/nvme0n1p2    996780  275900    652068  30% /boot
tmpfs               1024       0      1024   0% /run/credentials/systemd-tmpfiles-setup.service
tmpfs               1024       0      1024   0% /run/credentials/systemd-vconsole-setup.service
tmpfs               1024       0      1024   0% /run/credentials/systemd-resolved.service
tmpfs             807472     116    807356   1% /run/user/1000
eshwaranm@fedora:~$ ping 172.16.0.23
PING 172.16.0.23 (172.16.0.23) 56(84) bytes of data.
```

```
eshwaranm@fedora:~$ ifconfig
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.73.129  netmask 255.255.255.0  broadcast 192.168.73.255
        inet6 fe80::8746:1aa5:9f9d:efb0  prefixlen 64  scopeid 0x20<link>
        ether 00:0c:29:9d:8d:9e  txqueuelen 1000  (Ethernet)
        RX packets 35376  bytes 51187206 (48.8 MiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 5719  bytes 347037 (338.9 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 76  bytes 6652 (6.4 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 76  bytes 6652 (6.4 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```