

Kali Linux Commands

Task I

Created By:

Rahul Gouda (Intern ID:2069)

1. date:

Displays the current system date and time and can also be used to format or set date and time values.

Output:

```
└─(fury㉿fury)-[~/rahul01]
└─$ date
Mon Dec 29 01:50:50 PM IST 2025
```

2. pwd:

Displays the complete path of the present working directory which helps users know their exact location in the file system.

Output:

```
└─(fury㉿fury)-[~]
└─$ pwd
/home/fury
└─(fury㉿fury)-[~]
└─$ █
```

3. mkdir:

Creates a new directory with the given name and helps in organizing files and projects in a structured manner.

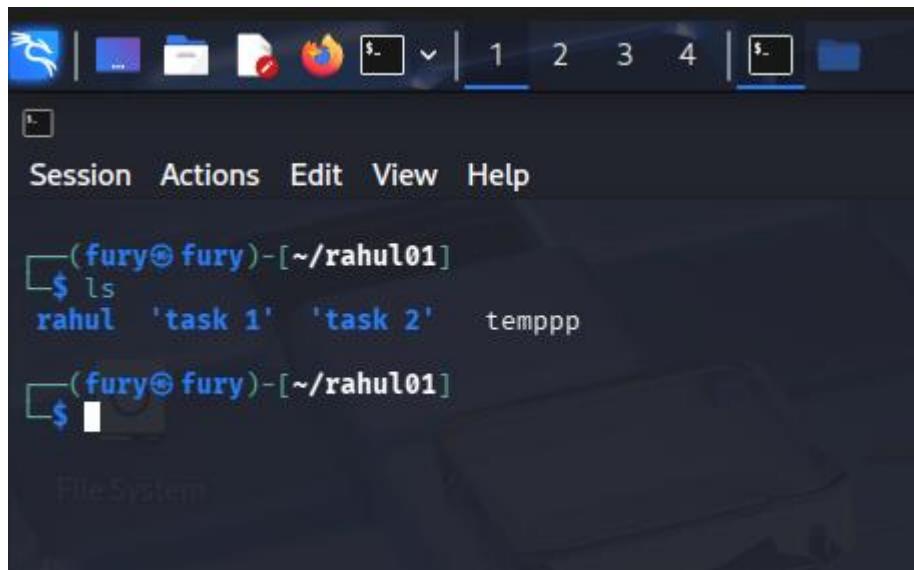
Output:

```
└─(fury㉿fury)-[~/rahul01]
└─$ mkdir rahul
```

4. ls:

Lists all files and directories in the current folder and shows their names clearly so users can understand the directory structure.

Output:



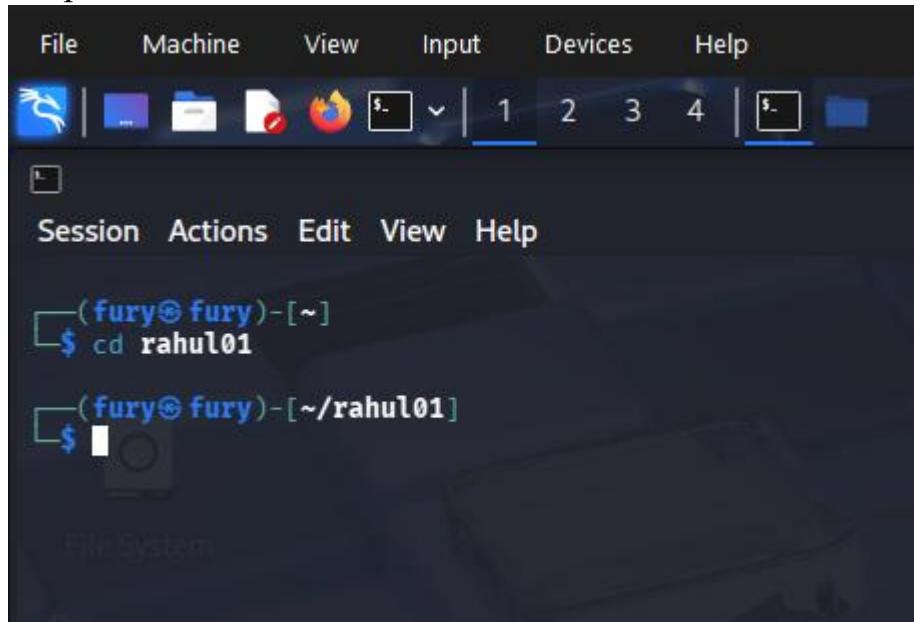
The screenshot shows a terminal window with a dark blue background. At the top, there's a menu bar with "Session", "Actions", "Edit", "View", and "Help". Below the menu is a toolbar with icons for file operations. The main area of the terminal shows the command \$ ls followed by a list of files: "rahul", "'task 1'", "'task 2'", and "temppp".

```
(fury@fury)-[~/rahul01]
$ ls
rahul 'task 1' 'task 2' temppp
```

5. cd:

This command will change the directory you are currently working on.

Output:



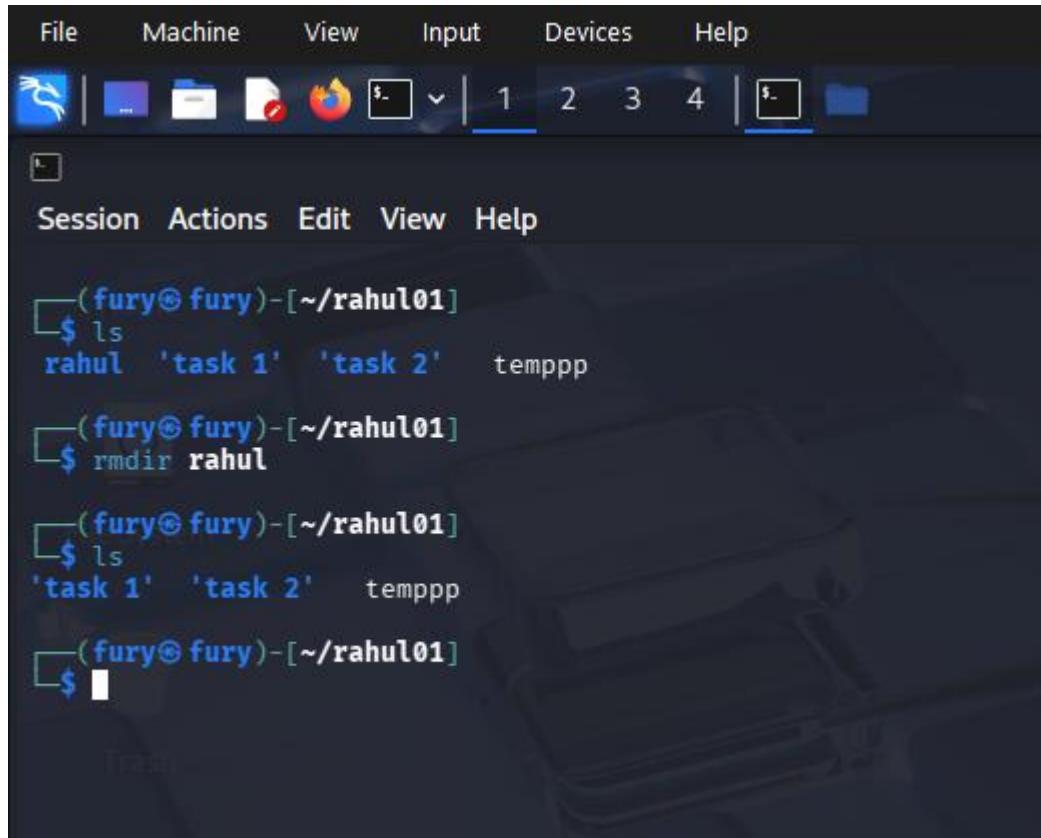
The screenshot shows a terminal window with a dark blue background. At the top, there's a menu bar with "File", "Machine", "View", "Input", "Devices", and "Help". Below the menu is a toolbar with icons for file operations. The main area of the terminal shows the command \$ cd rahul01 followed by the prompt changing to [~/rahul01].

```
(fury@fury)-[~]
$ cd rahul01
(fury@fury)-[~/rahul01]
```

6. rmdir:

Removes an empty directory safely from the system and is mainly used for cleaning unnecessary folders.

Output:



The screenshot shows a terminal window with a dark blue background. At the top, there's a menu bar with "File", "Machine", "View", "Input", "Devices", and "Help". Below the menu is a toolbar with icons for file operations. The main area of the terminal shows a session history:

```
(fury@fury)-[~/rahul01]
$ ls
rahul 'task 1' 'task 2' temppp

(fury@fury)-[~/rahul01]
$ rmdir rahul

(fury@fury)-[~/rahul01]
$ ls
'task 1' 'task 2' temppp

(fury@fury)-[~/rahul01]
$
```

7. mv:

Moves files or directories from one location to another and is also used to rename files or folders.

Output:



The screenshot shows a terminal window with a dark blue background. The session history demonstrates moving a directory:

```
(fury@fury)-[~/rahul01/task2]
$ cd
(fury@fury)-[~]
$ cd rahul01
(fury@fury)-[~/rahul01]
$ ls
task2 temppp

(fury@fury)-[~/rahul01]
$ mv temppp task2/
(fury@fury)-[~/rahul01]
$ ls
task2

(fury@fury)-[~/rahul01]
$ cd task2
(fury@fury)-[~/rahul01/task2]
$ ls
task1 temppp
```

8. cp:

Copies files or directories from one location to another while keeping the original file unchanged.

Output:

```
[fury@fury] ~/rahul01]$ ls
hello task2

[fury@fury] ~/rahul01]$ ls task2
task1 tempp

[fury@fury] ~/rahul01]$ cp hello task2/
[fury@fury] ~/rahul01]$ ls task2
hello task1 tempp

[fury@fury] ~/rahul01]$ ls
hello task2
```

9. rm:

Deletes files or directories permanently from the system and should be used carefully as removed data cannot be recovered easily.

Output:

```
[fury@fury] ~/rahul01]$ ls
DSCF0329.jpg hello hello.txt task2 task3

[fury@fury] ~/rahul01]$ rm task3
[fury@fury] ~/rahul01]$ ls
DSCF0329.jpg hello hello.txt task2
```

10.touch:

Creates a new empty file instantly and is commonly used for creating configuration or test files.

Output:

```
[fury@fury] ~/rahul01
$ ls
hello task2

[fury@fury] ~/rahul01
$ touch task3

[fury@fury] ~/rahul01
$ ls
hello task2 task3
```

11.echo:

Displays text or variable values on the terminal and is commonly used in shell scripts for output and debugging.

Output:

```
[fury@fury] ~/rahul01
$ echo "Hello friends">>>hello.txt

[fury@fury] ~/rahul01
$
```

12.cat:

Displays the full content of a file directly on the terminal which is useful for reading small text files quickly.

Output:

```
[fury@fury] ~/rahul01
$ cat hello.txt
Hello friends

[fury@fury] ~/rahul01
$
```

13.whoami:

Shows the name of the currently logged-in user and helps verify user permissions.

Output:

```
(fury㉿fury)-[~/rahul01]
$ whoami
fury
```

14.history:

Displays a list of previously executed commands in the terminal and helps users quickly reuse or review past commands.

Output:

```
(fury㉿fury)-[~]
$ history
1 whoami
2 sudo su
3 whoami
4 hostname
5 sudo su
6 whoami
```

15.who:

Displays a list of users currently logged into the system along with their login time and terminal information.

Output:

```
(fury㉿fury)-[~/rahul01]
$ who
fury      seat0          2025-12-29 12:53 (:0)
```

16.ping:

This command will send some packets to the mentioned host and will give us output about the details of what is the status of the packet. This command could be used to check the internet connection.

Output:

```
(fury㉿fury)-[~/rahul01]
$ ping google.com
PING google.com (216.58.203.46) 56(84) bytes of data.
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=1 ttl=118 time=33.5 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=2 ttl=118 time=3.17 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=3 ttl=118 time=5.45 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=4 ttl=118 time=49.0 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=5 ttl=118 time=8.75 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=6 ttl=118 time=42.9 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=7 ttl=118 time=2.00 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=8 ttl=118 time=23.0 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=9 ttl=118 time=2.14 ms
^C
--- google.com ping statistics ---
9 packets transmitted, 9 received, 0% packet loss, time 8015ms
rtt min/avg/max/mdev = 2.004/18.889/49.035/17.679 ms
```

17.ifconfig:

Displays network interface information including IP addresses, MAC addresses, and interface status. It is used to configure or troubleshoot network settings on the system.

Output:

```
(fury㉿fury)-[~/rahul01]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.0.105 netmask 255.255.255.0 broadcast 192.168.0.255
        inet6 fe80::49ce:1e27:3131:a690 prefixlen 64 scopeid 0x20<link>
            ether 08:00:27:63:b0:05 txqueuelen 1000 (Ethernet)
                RX packets 13399 bytes 10285794 (9.8 MiB)
                RX errors 27 dropped 0 overruns 0 frame 27
                TX packets 10229 bytes 2451322 (2.3 MiB)
                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 26 bytes 1380 (1.3 KiB)
                RX errors 0 dropped 0 overruns 0 frame 0
                TX packets 26 bytes 1380 (1.3 KiB)
                TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

18. df -h:

Displays disk space usage in a human-readable format with sizes in KB, MB, or GB for easier understanding.

Output:

```
(fury㉿fury)-[~/rahul01]
$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            883M    0  883M  0% /dev
tmpfs           198M  968K 197M  1% /run
/dev/sda1        79G   16G  59G  21% /
tmpfs           986M  4.0K 986M  1% /dev/shm
none            1.0M    0  1.0M  0% /run/credentials/systemd-journald.service
tmpfs           986M  8.0K 986M  1% /tmp
none            1.0M    0  1.0M  0% /run/credentials/getty@tty1.service
tmpfs           198M 108K 198M  1% /run/user/1000
```

19. du -h:

Shows the size of files and directories in a human-readable format, making it easier to identify space usage.

Output:

```
(fury㉿fury)-[~]
$ du -h
4.0K  ./mozilla/extensions
4.0K  ./mozilla/firefox-esr/Crash Reports
8.0K  ./mozilla/firefox-esr
4.0K  ./mozilla/firefox/Pending Pings
260K  ./mozilla/firefox/Profile Groups
4.0K  ./mozilla/firefox/kkxvceg3.default-esr/crashes/events
12K   ./mozilla/firefox/kkxvceg3.default-esr/crashes
4.0K  ./mozilla/firefox/kkxvceg3.default-esr/extension-store
8.0K  ./mozilla/firefox/kkxvceg3.default-esr/bookmarkbackups
4.0K  ./mozilla/firefox/kkxvceg3.default-esr/storage/temporary
```

20. wc -w:

Counts the number of words in a file or input, helping users quickly analyze text content.

Output:

```
(fury㉿fury)-[~/rahul01]
$ wc -w hello.txt
2 hello.txt
```

21. wget:

This command will download the file from the link entered in the command.

Output:

```
(fury㉿fury) -[~/rahul01]
└─$ wget https://images.pistonheads.com/ming/44216/DSCF0329.jpg
--2025-12-29 13:33:44  https://images.pistonheads.com/ming/44216/DSCF0329.jpg
Resolving images.pistonheads.com (images.pistonheads.com) ... 18.239.111.28, 18.239.111.84, 18.239.111.82, ...
Connecting to images.pistonheads.com (images.pistonheads.com)|18.239.111.28|:443 ... connected.
HTTP request sent, awaiting response ... 200 OK
Length: 362756 (354K) [image/jpeg]
Saving to: 'DSCF0329.jpg'

DSCF0329.jpg                                         100%[=====] 354.25K  921KB/s  in 0.4s

2025-12-29 13:33:45 (921 KB/s) - 'DSCF0329.jpg' saved [362756/362756]

(fury㉿fury) -[~/rahul01]
└─$ ls
DSCF0329.jpg  hello  task2  task3
```

22.upgrade:

This command will upgrade all the packages in the system.

Output:

A screenshot of a terminal window titled "Session 1". The title bar includes "File", "Machine", "View", "Input", "Devices", and "Help". Below the title bar is a toolbar with icons for file operations like copy, paste, and delete, as well as browser and terminal tabs. The main area shows a session log with the command "\$ sudo apt upgrade" and its summary output.

23.update:

This command will check for updates of all the packages and will add the updates in the list to upgrade.

Output:

```
(fury㉿fury)-[~/rahul01]
$ sudo apt update
Get:1 http://mirrors.estointernet.kali kali-rolling InRelease [34.0 kB]
Get:2 http://mirrors.estointernet.kali kali-rolling/main amd64 Packages [20.9 MB]
19% [2 Packages 4,639 kB/20.9 MB 22%]
Get:3 http://mirrors.estointernet.kali kali-rolling/main amd64 Contents (deb) [52.5 MB]
Get:4 http://mirrors.estointernet.kali kali-rolling/contrib amd64 Packages [114 kB]
Get:5 http://mirrors.estointernet.kali kali-rolling/contrib amd64 Contents (deb) [255 kB]
Get:6 http://mirrors.estointernet.kali kali-rolling/non-free amd64 Packages [190 kB]
Get:7 http://mirrors.estointernet.kali kali-rolling/non-free amd64 Contents (deb) [904 kB]
Get:8 http://mirrors.estointernet.kali kali-rolling/non-free-firmware amd64 Packages [11.8 kB]
Get:9 http://mirrors.estointernet.kali kali-rolling/non-free-firmware amd64 Contents (deb) [30.0 kB]
Fetched 75.0 MB in 4min 17s (291 kB/s)
750 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

24.nslookup:

Queries DNS servers to find the IP address associated with a domain name or vice versa. It is used for troubleshooting and verifying DNS configurations.

Output:

```
(fury㉿fury)-[~/rahul01]
$ nslookup google.com
Server:          192.168.0.1
Address:         192.168.0.1#53

Non-authoritative answer:
Name:   google.com
Address: 142.251.42.238
Name:   google.com
Address: 2404:6800:4009:80f::200e
```

25.tree:

Displays the directory structure in a hierarchical tree format, showing all files and subdirectories clearly. It helps users quickly understand the organization and layout of folders on the system.

Output:

```
(fury㉿fury)-[~]
$ tree
.
├── Desktop
├── Documents
├── Downloads
├── Music
├── Pictures
├── Public
└── rahul01
    ├── DSCF0329.jpg
    ├── hello
    ├── hello.txt
    └── task2
        ├── hello
        ├── task1
        └── temp
└── task1
└── Templates
└── Videos
```

26.route:

Displays the system's routing table, showing network destinations, gateways, and interface information. It is used to view or troubleshoot how network traffic is directed on the system.

Output:

```
(fury㉿fury)-[~]
$ route
Kernel IP routing table
Destination      Gateway      Genmask      Flags Metric Ref    Use Iface
default          192.168.0.1  0.0.0.0      UG     100    0        0 eth0
192.168.0.0     0.0.0.0     255.255.255.0  U       100    0        0 eth0
```

27.w:

Displays a list of users currently logged in along with their activity, login time, and the processes they are running. It helps monitor user activity and system usage in real time.

Output:

```
(fury㉿fury)-[~]
$ w
14:17:05 up 1:24, 1 user, load average: 0.13, 0.16, 0.14
USER   TTY      FROM           LOGIN@  IDLE   JCPU   PCPU WHAT
fury   -          12:53        0.00s ?      lightdm --session-child 13 24
```

28. hostnamectl:

Displays system hostname and related settings such as static, transient, and pretty hostnames. It is used to view or change the system's hostname and manage basic system information.

Output:

```
(fury㉿fury)-[~]
$ hostnamectl
Static hostname: fury
Icon name: computer-vm
Chassis: vm
Machine ID: b69758c0cad3481e967dcad827001d56
Boot ID: 49c9c3fc31be490787758a79ebdda4f9
Virtualization: oracle
Operating System: Kali GNU/Linux Rolling
Kernel: Linux 6.16.8+kali-amd64
Architecture: x86-64
Hardware Vendor: innotek GmbH
Hardware Model: VirtualBox
Hardware Version: 1.2
Firmware Version: VirtualBox
Firmware Date: Fri 2006-12-01
Firmware Age: 19y 4w
```

29. timedatectl:

Displays and allows management of the system's date, time, and time zone settings. It is used to view current time settings or change the system clock and time zone configuration.

Output:

```
(fury㉿fury)-[~]
$ timedatectl
      Local time: Mon 2025-12-29 14:19:13 IST
      Universal time: Mon 2025-12-29 08:49:13 UTC
            RTC time: Mon 2025-12-29 08:49:11
           Time zone: Asia/Kolkata (IST, +0530)
 System clock synchronized: no
        NTP service: inactive
      RTC in local TZ: no
```

30. last:

Shows a list of the most recent user logins on the system along with login time, duration, and terminal used. It is useful for tracking user activity and auditing system access.

Output:

```
(fury㉿fury)-[~]
$ last
fury    tty7      :0          Mon Dec 29 12:53 - still logged in
lightdm  tty7      :0          Mon Dec 29 12:53 - 12:53  (00:00)
fury    tty7      :0          Sun Dec 28 15:39 - 15:56  (00:16)
lightdm  tty7      :0          Sun Dec 28 15:38 - 15:39  (00:01)
fury    tty8      :1          Sun Dec 28 15:34 - 15:37  (00:03)
lightdm  tty8      :1          Sun Dec 28 15:34 - 15:34  (00:00)
root    tty7      :0          Sun Dec 28 15:27 - 15:37  (00:10)
lightdm  tty7      :0          Sun Dec 28 15:26 - 15:27  (00:00)
root    pts/1      :0          Sun Dec 28 15:25 - 15:26  (00:00)
kali    tty7      :0          Sun Dec 28 15:25 - 15:26  (00:00)
lightdm  tty7      :0          Sun Dec 28 15:24 - 15:25  (00:01)
root    pts/1      :0          Sun Dec 28 15:22 - 15:23  (00:00)
lightdm  tty8      :1          Sun Dec 28 15:21 - 15:22  (00:00)
kali    tty7      :0          Sun Dec 28 15:17 - 15:23  (00:06)
lightdm  tty7      :0          Sun Dec 28 15:17 - 15:17  (00:00)
root    pts/1      :0          Sun Dec 28 15:14 - 15:16  (00:01)
kali    tty7      :0          Sun Dec 28 15:09 - 15:16  (00:06)
lightdm  tty7      :0          Sun Dec 28 15:09 - 15:09  (00:00)
lightdm  tty7      :0          Sun Dec 28 15:07 - still logged in
kali    tty7      :0          Sun Dec 28 15:05 - 15:07  (00:01)
lightdm  tty7      :0          Sun Dec 28 15:05 - 15:05  (00:00)
postgres          :0          Wed Dec  3 08:05 - 08:05  (00:00)

wtmpdb begins Wed Dec  3 08:05:30 2025
```

31.ip route:

Shows the system's routing table, including network destinations, gateways, and interface details. It is used to view and troubleshoot how network traffic is directed on the system.

Output:

```
[fury@fury] ~
$ ip route
default via 192.168.0.1 dev eth0 proto dhcp src 192.168.0.105 metric 100
192.168.0.0/24 dev eth0 proto kernel scope link src 192.168.0.105 metric 100
```

32. hostname:

Displays the current system hostname, which identifies the machine on a network. It can also be used to set or change the system's hostname.

Output:

```
[fury@fury] ~
$ hostname
fury
```

33. passwd:

Changes the password of the current or specified user account to enhance security. It prompts for the old password and then allows setting a new password.

Output:

```
[fury@fury] ~
$ passwd
Changing password for fury.
Current password:
New password:
Retype new password:
passwd: password updated successfully
```

34.uptime:

Shows how long the system has been running along with the current time, number of users, and load averages. It helps monitor system stability and performance over time.

Output:

```
[fury@fury] ~
$ uptime
14:26:04 up 1:33, 1 user, load average: 0.10, 0.22, 0.17
```

35. top:

Shows real-time information about running processes, CPU, and memory usage, allowing users to monitor system performance.

Output:

```
[fury@fury] ~/rahul01
$ top
top - 14:28:30 up 1:35, 1 user, load average: 0.13, 0.21, 0.17
Tasks: 160 total, 1 running, 159 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.6 us, 3.4 sy, 0.0 ni, 94.7 id, 0.0 wa, 0.0 hi, 0.3 si, 0.0 st
MiB Mem : 1971.1 total, 792.6 free, 753.5 used, 607.6 buff/cache
MiB Swap: 953.7 total, 716.2 free, 237.5 used. 1217.7 avail Mem

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND
 750 root 20 0 783252 143404 48972 S 3.9 7.1 2:18.52 Xorg
36001 fury 20 0 660816 67800 51960 S 1.2 3.4 0:08.50 qterminal
1152 fury 20 0 280932 2268 2192 S 0.6 0.1 0:19.23 VBoxClient
1222 fury 20 0 897412 78892 46648 S 0.6 3.9 0:28.90 xfwm4
1280 fury 20 0 296608 18112 12996 S 0.6 0.9 0:16.16 wrapper-2.0
1282 fury 20 0 272760 15720 13268 S 0.6 0.8 0:20.40 wrapper-2.0
224 root 20 0 0 0 I 0.3 0.0 0:04.58 kworker/1:3-events
494 message+ 20 0 10076 5192 3396 S 0.3 0.3 0:04.38 dbus-daemon
1144 fury 20 0 214880 2812 2604 S 0.3 0.1 0:08.19 VBoxClient
1285 fury 20 0 286036 23268 20112 S 0.3 1.2 0:03.28 wrapper-2.0
1314 root 20 0 318860 7644 6624 S 0.3 0.4 0:04.89 upowerd
1360 fury 20 0 281560 23932 12664 S 0.3 1.2 0:01.05 xfce4-screensav
51106 fury 20 0 10460 5816 3620 R 0.3 0.3 0:00.05 top
 1 root 20 0 24568 12132 8824 S 0.0 0.6 0:01.19 systemd
 2 root 20 0 0 0 S 0.0 0.0 0:00.01 kthreadd
 3 root 20 0 0 0 S 0.0 0.0 0:00.00 pool_workqueue_release
 4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/R-rcu_gp
 5 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/R-sync_wq
 6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/R-kvfree_rcu_reclaim
 7 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/R-slub_flushwq
 8 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/R-netns
```