OUTPUTS

1.

a)

```
$ ls a* | cat > file1.txt
$ cat file1.txt
abc.txt
```

b)

```
$ who | sort | cat > file1.txt
$ cat file1.txt
pinaki    tty2            2023-02-06 18:34 (tty2)
```

c)

```
$ cat file1.txt | sed G > double.txt
$ cat double.txt
pinaki    tty2            2023-02-06 18:34 (tty2)

$
```

d)

```
$ cat > num.txt
1
2
3
4
5
6
7
8
9
0
^Z
[1]+  Stopped                 cat > num.txt
$ sed -n '5, 10p' num.txt
5
6
7
8
9
0
```

e)

```
$ cut -d : -f 1,4 /etc/passwd
root:0
daemon:1
bin:2
sys:3
sync:65534
games:60
man:12
lp:7
mail:8
news:9
uucp:10
proxy:13
www-data:33
backup:34
list:38
irc:39
gnats:41
nobody:65534
systemd-network:102
systemd-resolve:103
messagebus:105
```

f)

```
$ tail -n +11 /etc/passwd | cut -d : -f 1
uucp
proxy
www-data
backup
list
irc
gnats
nobody
systemd-network
systemd-resolve
messagebus
systemd-timesync
syslog
_apt
tss
uuidd
systemd-oom
tcpdump
avahi-autoipd
usbmux
dnsmasq
```

g)
```
$ sort -t : -k 3n,3 /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/
```

h)
```
$ sort -t : -k 3n,3 -r /etc/passwd | tail -n 1 | cut -d : -f 1,3
nobody:65534
```

i)
```
$ ls -l | sort | head -n 5
drwx------ 6 pinaki pinaki 4096 Jan 15 17:16 snap
drwxrwxr-x 2 pinaki pinaki 4096 Jan 22 15:43 Folder4
drwxrwxr-x 2 pinaki pinaki 4096 Jan 22 15:50 Folder1
drwxrwxr-x 2 pinaki pinaki 4096 Jan 22 15:52 Folder2
drwxr-xr-x 2 pinaki pinaki 4096 Jan 15 16:23 Desktop
```

j)
```
$ cat file2.txt
hello
user
hello
$ sort file2.txt | uniq > file3.txt
$ cat file3.txt
hello
user
```

k)
```
$ sort file2.txt | uniq -c
      2 hello
      1 user
```

l)

```
$ find /etc -name "*.conf" -type f -ls | sort -k 7 | head -n 5
find: '/etc/polkit-1/localauthority': Permission denied
find: '/etc/ssl/private': Permission denied
find: '/etc/cups/ssl': Permission denied
   394521       4 -rw-r--r--   1 root     root         1009 Jun  4
s-1/system.d/wpa_supplicant.conf
   394941       4 -rw-r--r--   1 root     root          100 Mar  4
so.conf.d/x86_64-linux-gnu.conf
   395502      12 -rw-r--r--   1 root     root        10169 Jul 21
ech-dispatcher/modules/espeak-ng-mbrola-generic.conf
   394508       4 -rw-r--r--   1 root     root         1016 Mar 24
s-1/system.d/kerneloops.conf
   394647      12 -rw-r--r--   1 root     root        10293 Mar 23
ts/conf.avail/65-fonts-persian.conf
```

m)

```
$ cut -d: -f1 /etc/passwd | sort | uniq
_apt
avahi
avahi-autoipd
backup
bin
colord
cups-pk-helper
daemon
dnsmasq
fwupd-refresh
games
gdm
geoclue
gnats
gnome-initial-setup
hplip
irc
```

n)

```
$ find -name "*.bak" -type f -mtime +7
```

o)