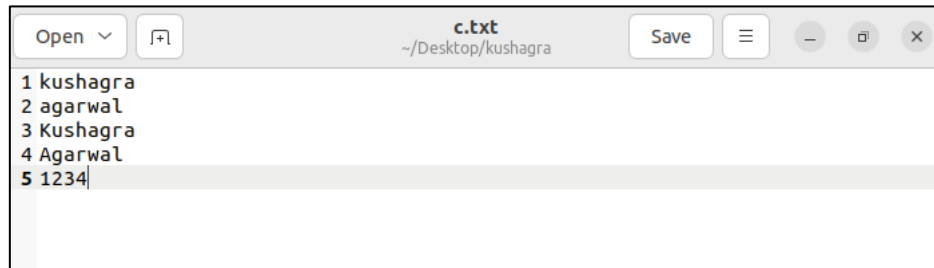


iv. sort



```
Open  c.txt  Save  ~/Desktop/kushagra
1 kushagra
2 agarwal
3 Kushagra
4 Agarwal
5 1234
```

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ sort c.txt
1234
agarwal
Agarwal
kushagra
Kushagra
```

v. export

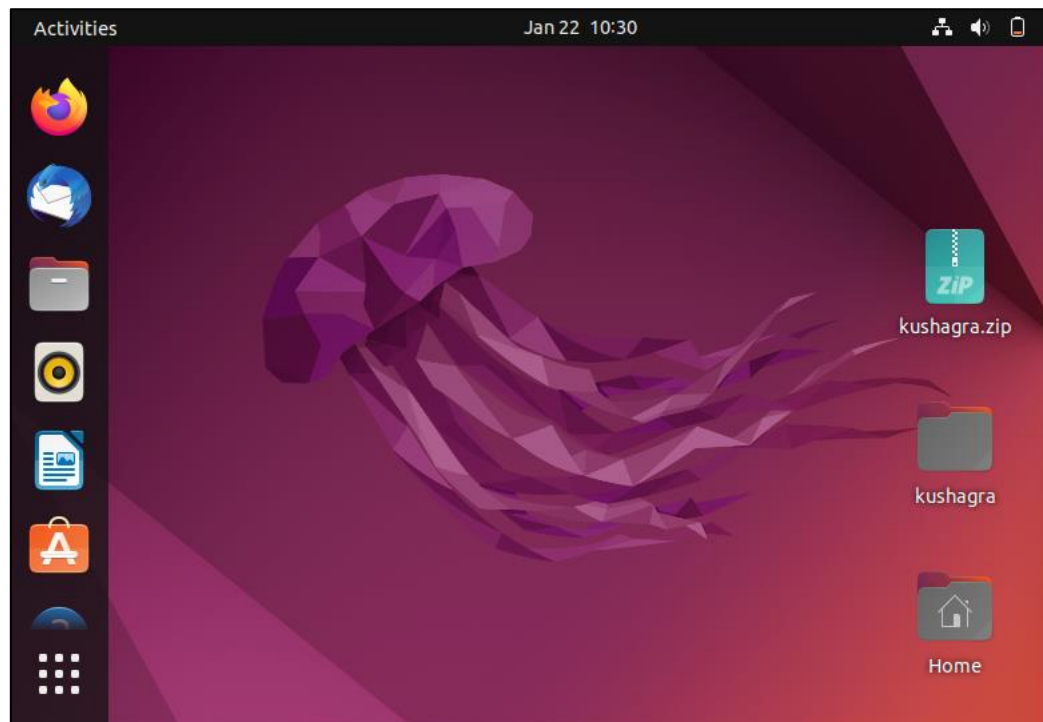
```
kushagra@kushagra-VirtualBox:~/Desktop$ export
declare -x COLORTERM="truecolor"
declare -x DBUS_SESSION_BUS_ADDRESS="unix:path=/run/user/1000/bus"
declare -x DESKTOP_SESSION="ubuntu"
declare -x DISPLAY=":0"
declare -x GDMSESSION="ubuntu"
declare -x GNOME_DESKTOP_SESSION_ID="this-is-deprecated"
declare -x GNOME_SETUP_DISPLAY=":1"
declare -x GNOME_SHELL_SESSION_MODE="ubuntu"
declare -x GNOME_TERMINAL_SCREEN="/org/gnome/Terminal/screen/118c427a_bd0e_44cf_a05b_bb83b9618b14"
declare -x GNOME_TERMINAL_SERVICE=":1.127"
declare -x GTK_MODULES="gail:atk-bridge"
declare -x HOME="/home/kushagra"
declare -x IM_CONFIG_PHASE="1"
declare -x LANG="en_IN"
declare -x LANGUAGE="en_IN:en"
declare -x LESSCLOSE="/usr/bin/lesspipe %s %s"
declare -x LESSOPEN="| /usr/bin/lesspipe %s"
declare -x LOGNAME="kushagra"
```

vi. ssh

```
kushagra@kushagra-VirtualBox:~/Desktop$ ssh
usage: ssh [-46AaCfGgKkMnNqsTtVvXxYy] [-B bind_interface]
          [-b bind_address] [-c cipher_spec] [-D [bind_address:]port]
          [-E log_file] [-e escape_char] [-F configfile] [-I pkcs11]
          [-i identity_file] [-J [user@]host[:port]] [-L address]
          [-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]
          [-Q query_option] [-R address] [-S ctl_path] [-W host:port]
          [-w local_tun[:remote_tun]] destination [command [argument ...]]
```

vii. zip

```
kushagra@kushagra-VirtualBox:~/Desktop$ zip -r kushagra.zip kushagra
adding: kushagra/ (stored 0%)
adding: kushagra/a.txt (stored 0%)
adding: kushagra/b.txt (stored 0%)
adding: kushagra/c.txt (deflated 26%)
```



viii. unzip

```
kushagra@kushagra-VirtualBox:~/Desktop$ unzip kushagra1.zip
Archive: kushagra1.zip
```

ix. ps

```
kushagra@kushagra-VirtualBox:~/Desktop$ ps
  PID TTY          TIME CMD
  3527 pts/0    00:00:00 bash
  4162 pts/0    00:00:00 ps
```

x. uname

```
kushagra@kushagra-VirtualBox:~/Desktop$ uname
Linux
```

xi. chown

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ sudo chown root a.txt
[sudo] password for kushagra:
Sorry, try again.
[sudo] password for kushagra:
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ ls -l a.txt
-rwxrw-r-- 1 root kushagra 19 Jan 14 22:10 a.txt
```

xii. wget

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ wget https://www.youtube.com
--2023-01-22 10:46:28-- https://www.youtube.com/
Resolving www.youtube.com (www.youtube.com)... 142.250.183.78, 216.58.203.46,
216.58.203.14, ...
Connecting to www.youtube.com (www.youtube.com)|142.250.183.78|:443... connect
ed.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'index.html'

index.html                                     [      ] 692.34K  346KB/s   in 2.0s

2023-01-22 10:46:31 (346 KB/s) - 'index.html' saved [708959]
```



xiii. ufw

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ sudo ufw enable
Firewall is active and enabled on system startup
```

xiv. traceroute

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ traceroute google.com
traceroute to google.com (216.239.38.120), 30 hops max, 60 byte packets
 1  _gateway (10.0.2.2)  0.501 ms  0.468 ms  0.455 ms
 2  * * *
 3  * * *
 4  * * *
```

xv. service

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ service --status-all
[ + ] acpid
[ - ] alsa-utils
[ - ] anacron
[ + ] apparmor
[ + ] apport
[ + ] avahi-daemon
[ - ] bluetooth
[ - ] console-setup.sh
[ + ] cron
[ + ] cups
[ + ] cups-browsed
[ + ] dbus
[ + ] gdm3
[ - ] grub-common
[ - ] hwclock.sh
[ - ] irqbalance
[ + ] kerneloops
[ - ] keyboard-setup.sh
```

xvi. alias

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ alias
alias alert='notify-send --urgency=low -i "${([ $? = 0 ]) && echo terminal || echo error}" "$(history|tail -n1|sed -e '\''s/^s*[0-9]\+s*//;s/[:&|]\s*alert$/\'\''')"'
alias egrep='egrep --color=auto'
alias fgrep='fgrep --color=auto'
alias grep='grep --color=auto'
alias l='ls -CF'
alias la='ls -A'
alias ll='ls -alF'
alias ls='ls --color=auto'
```

xvii. dd

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ cat a.txt
hello how are you.
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ cat b.txt
kushagra agarwal.
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ dd if=a.txt of=b.txt
0+1 records in
0+1 records out
19 bytes copied, 0.000177784 s, 107 kB/s
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ cat b.txt
hello how are you.
```

xviii. whereis

```
kushagra@kushagra-VirtualBox:~$ whereis lshw
lshw: /usr/bin/lshw /usr/share/man/man1/lshw.1.gz
```

xix. whatis

```
kushagra@kushagra-VirtualBox:~$ whatis whereis
whereis (1)          - locate the binary, source, and manual page files for...
```

xx. diff

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ diff a.txt b.txt
1c1
< hello how are you.
--
> Kushagra Agarwal
```

xxi. In

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ ls
a.txt b.txt c.txt index.html
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ ln a.txt d.txt
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ ls
a.txt b.txt c.txt d.txt index.html
```

xxii. top

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ top
```

```
top - 12:15:06 up 2:37, 1 user, load average: 0.17, 0.07, 0.01
Tasks: 192 total, 1 running, 191 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.7 us, 0.7 sy, 0.0 ni, 98.3 id, 0.3 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 1976.0 total, 228.9 free, 845.8 used, 901.4 buff/cache
MiB Swap: 2140.0 total, 2037.1 free, 102.9 used. 952.5 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1607	kushagra	20	0	4170872	393972	79132	S	1.7	19.5	4:01.41	gnome-shell
6547	kushagra	20	0	575372	57204	44444	S	0.3	2.8	0:08.48	gnome-terminal-
1	root	20	0	167924	10928	5948	S	0.0	0.5	0:01.27	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
3	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_gp
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_par_gp
5	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	slub_flushwq
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	netns
8	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/0:0H-events_highpri
10	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	mm_percpu_wq
11	root	20	0	0	0	0	S	0.0	0.0	0:00.00	rcu_tasks_rude_
12	root	20	0	0	0	0	S	0.0	0.0	0:00.00	rcu_tasks_trace
13	root	20	0	0	0	0	S	0.0	0.0	0:00.37	ksoftirqd/0
14	root	20	0	0	0	0	I	0.0	0.0	0:02.19	rcu_sched
15	root	rt	0	0	0	0	S	0.0	0.0	0:00.07	migration/0
16	root	-51	0	0	0	0	S	0.0	0.0	0:00.00	idle_inject/0
18	root	20	0	0	0	0	S	0.0	0.0	0:00.00	cpuhp/0
19	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kdevtmpfs
20	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	inet_frag_wq

xxiii. useradd

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ useradd -D
GROUP=100
HOME=/home
INACTIVE=-1
EXPIRE=
SHELL=/bin/sh
SKEL=/etc/skel
CREATE_MAIL_SPOOL=no
```


xxiv. man

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ man man
```

MAN(1) Manual pager utils MAN(1)

NAME

man - an interface to the system reference manuals

SYNOPSIS

```
man [man options] [[section] page ...] ...
man -k [apropos options] regexp ...
man -K [man options] [section] term ...
man -f [whatis options] page ...
man -l [man options] file ...
man -w|-W [man options] page ...
```

DESCRIPTION

man is the system's manual pager. Each page argument given to man is normally the name of a program, utility or function. The manual page associated with each of these arguments is then found and displayed. A section, if provided, will direct man to look only in that section of the manual. The default action is to search in all of the available sections following a pre-defined order (see **DEFAULTS**), and to show only the first page found, even if page exists in several sections.

The table below shows the section numbers of the manual followed by the types of pages they contain.

1	Executable programs or shell commands
2	System calls (functions provided by the kernel)
3	Library calls (functions within program libraries)
4	Special files (usually found in /dev)
5	File formats and conventions, e.g. /etc/passwd
6	Games
7	Miscellaneous (including macro packages and conventions), e.g. man(7), groff(7), man-pages(7)
8	System administration commands (usually only for root)
9	Kernel routines [Non standard]

A manual page consists of several sections.

Conventional section names include **NAME**, **SYNOPSIS**, **CONFIGURATION**, **DESCRIPTION**, **OPTIONS**, **EXIT STATUS**, **RETURN VALUE**, **ERRORS**, **ENVIRONMENT**, **FILES**, **VERSIONS**, **CONFORMING TO**, **NOTES**, **BUGS**, **EXAMPLE**, **AUTHORS**, and **SEE ALSO**.

The following conventions apply to the **SYNOPSIS** section and can be used as a guide in other sections.

bold text	type exactly as shown.
<i>italic text</i>	replace with appropriate argument.
[-abc]	any or all arguments within [] are optional.
-a -b	options delimited by cannot be used together.
argument ...	argument is repeatable.
[expression] ...	entire expression within [] is repeatable.

xxv. cp

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ cp a.txt a_copy.txt
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ ls
a_copy.txt a.txt b.txt c.txt d.txt index.html
```

xxvi. netstat

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 kushagra-Virtual:bootpc _gateway:bootps        ESTABLISHED

Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags               Type                   State                  I-Node   Path
unix    2      [ ]                 DGRAM                 22061                 /run/user/1000/syste
d/notify
unix    3      [ ]                 DGRAM                 CONNECTED              15599                 /run/systemd/notify
unix    2      [ ]                 DGRAM                 15615                 /run/systemd/journa
l/syslog
unix   17      [ ]                 DGRAM                 CONNECTED              15624                 /run/systemd/journa
l/dev-log
unix    9      [ ]                 DGRAM                 CONNECTED              15626                 /run/systemd/journa
l/socket
unix    3      [ ]                 STREAM                 CONNECTED              25507
unix    3      [ ]                 STREAM                 CONNECTED              24231
unix    3      [ ]                 STREAM                 CONNECTED              23418                 /run/systemd/journa
l/stdout
unix    3      [ ]                 STREAM                 CONNECTED              22159
unix    3      [ ]                 STREAM                 CONNECTED              18409
unix    3      [ ]                 STREAM                 CONNECTED              18028
unix    3      [ ]                 STREAM                 CONNECTED              24474
unix    3      [ ]                 STREAM                 CONNECTED              23665                 /run/systemd/journa
l/stdout
```

xxvii. nslookup

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ nslookup google.com
Server:          127.0.0.53
Address:         127.0.0.53#53

Non-authoritative answer:
Name:   google.com
Address: 216.239.38.120
Name:   google.com
Address: 2001:4860:4802:32::78
```

xxviii. dig

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ dig

; <<>> DiG 9.18.1-1ubuntu1.1-Ubuntu <<>>
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 61701
;; flags: qr rd ra; QUERY: 1, ANSWER: 13, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
; .                               IN      NS

;; ANSWER SECTION:
.      86500      IN      NS      c.root-servers.net.
.      86500      IN      NS      g.root-servers.net.
.      86500      IN      NS      k.root-servers.net.
.      86500      IN      NS      a.root-servers.net.
.      86500      IN      NS      j.root-servers.net.
.      86500      IN      NS      d.root-servers.net.
.      86500      IN      NS      m.root-servers.net.
.      86500      IN      NS      b.root-servers.net.
.      86500      IN      NS      f.root-servers.net.
.      86500      IN      NS      i.root-servers.net.
.      86500      IN      NS      h.root-servers.net.
.      86500      IN      NS      e.root-servers.net.
.      86500      IN      NS      l.root-servers.net.

;; Query time: 28 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Sun Jan 22 12:29:03 IST 2023
;; MSG SIZE rcvd: 239
```

xxix. uptime

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ uptime
12:29:57 up 2:52, 1 user, load average: 0.32, 0.17, 0.08
```

xxx. wall

```
kushagra@kushagra-VirtualBox:~$ sudo wall -n Hello
[sudo] password for kushagra:

Hello
```


xxxi. mesg

```
kushagra@kushagra-VirtualBox:~$ mesg n
kushagra@kushagra-VirtualBox:~$ write a
write: you have write permission turned off
```

xxxii. write

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ mesg y
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ write yash
hello
```

xxxiii. talk

```
kushagra@kushagra-VirtualBox: ~
Message from Talk_Daemon@kushagra-VirtualBox at 14:39 ...
talk: connection requested by kushagra@127.0.0.1.
talk: respond with: talk kushagra@127.0.0.1
talk kushagra@localhost

kushagra@kushagra-VirtualBox:~$ talk yash@localhost
kushagra@kushagra-VirtualBox:~$

kushagra@kushagra-VirtualBox: ~
hi
i am yash

kushagra@kushagra-VirtualBox: ~
how are you
i am kushagra

kushagra@kushagra-VirtualBox: ~
how are you
i am kushagra

kushagra@kushagra-VirtualBox: ~
hi
i am yash
```

xxxiv. w

```
kushagra@kushagra-VirtualBox:~$ w
 14:50:14 up  5:12,  4 users,  load average: 1.15, 1.15, 1.06
USER      TTY      FROM            LOGIN@   IDLE   JCPU   PCPU WHAT
kushagra  tty2     tty2            09:38    5:12m  0.01s  0.01s /usr/libe
kushagra  pts/1    -               13:39    0.00s  0.00s  0.00s sudo su y
kushagra  pts/4    -               13:41    0.00s  0.00s  0.02s sudo su y
yash      tty3     tty3            13:52    5:12m  0.01s  0.01s /usr/libe
```

xxxv. rename

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ mv a.txt a_new.txt
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ ll
total 724
drwxrwxr-x 2 kushagra kushagra 4096 Jan 22 15:37 ./
drwxr-xr-x 3 kushagra kushagra 4096 Jan 22 10:34 ../
-rwxrw-r-- 1 kushagra kushagra 14 Jan 22 12:24 a_copy.txt*
-rwxrw-r-- 2 root kushagra 14 Jan 22 12:10 a_new.txt*
-rw-rw-r-- 1 kushagra kushagra 17 Jan 22 12:05 b.txt
-rw-rw-r-- 1 kushagra kushagra 39 Jan 22 10:08 c.txt
-rwxrw-r-- 2 root kushagra 14 Jan 22 12:10 d.txt*
-rw-rw-r-- 1 kushagra kushagra 708959 Jan 22 10:46 index.html
```

xxxvi. free

```
kushagra@kushagra-VirtualBox:~/Desktop/kushagra$ free
```

	total	used	free	shared	buff/cache	available
Mem:	2023460	1156604	181248	17828	685608	684304
Swap:	2191356	305356	1886000			