

```
sumukh_g@Sumukh: ~  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Documents  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Downloads  
-rwxrwxrwx 1 sumukh_g sumukh_g 119 Dec 29 12:54 evenodd.sh  
-rwxrwxrwx 1 sumukh_g sumukh_g 137 Dec 29 19:47 fact.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 15 Dec 29 20:20 fibbo.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 0 Apr 12 15:51 file1.txt  
-rw-rw-r-- 1 sumukh_g sumukh_g 0 Apr 12 15:54 file2.txt  
-rw-rw-r-- 1 sumukh_g sumukh_g 10240 Apr 13 11:57 hello.tar  
-r--rw-r-- 1 sumukh_g sumukh_g 63 Apr 12 15:58 hello.txt  
-rwxrwxrwx 1 sumukh_g sumukh_g 187 Dec 29 13:17 leap.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 51 Apr 12 15:57 linux_command.txt  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Music  
-rwxrwxrwx 1 sumukh_g sumukh_g 93 Dec 29 18:50 numpattern.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 237 Apr 13 11:54 out.tar.bz2  
-rwxrwxrwx 1 sumukh_g sumukh_g 89 Dec 29 18:42 pattern1.sh  
drwxr-xr-x 3 sumukh_g sumukh_g 4096 Apr 12 15:25 Pictures  
-rwxrwxrwx 1 sumukh_g sumukh_g 162 Dec 29 12:58 posnegzero.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Public  
-rw-rw-r-- 1 sumukh_g sumukh_g 42 Apr 12 16:59 sed.txt  
drwx----- 4 sumukh_g sumukh_g 4096 Apr 12 15:28 snap  
-rw-rw-r-- 1 sumukh_g sumukh_g 10240 Apr 13 11:53 t1.tar.bz2  
-rwxrwxrwx 1 sumukh_g sumukh_g 496 Dec 29 16:14 tables.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Templates  
-rw-rw-r-- 1 sumukh_g sumukh_g 98 Apr 12 16:10 unix.txt  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Videos  
sumukh_g@Sumukh:~$ chmod u=rwx g=r fibbo.sh  
chmod: cannot access 'g=r': No such file or directory  
sumukh_g@Sumukh:~$ chmod u=rwx,g=r fibbo.sh  
sumukh_g@Sumukh:~$ ls -l  
total 128  
-rwxrwxrwx 1 sumukh_g sumukh_g 144 Dec 29 19:59 circle.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 51 Apr 12 16:04 copy.txt  
-rwxrwxrwx 1 sumukh_g sumukh_g 256 Dec 29 12:47 demo1.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Desktop  
drwxrwxr-x 3 sumukh_g sumukh_g 4096 Apr 12 16:49 dir1  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Documents  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Downloads  
-rwxrwxrwx 1 sumukh_g sumukh_g 119 Dec 29 12:54 evenodd.sh  
-rwxrwxrwx 1 sumukh_g sumukh_g 137 Dec 29 19:47 fact.sh  
-rwxr--r-- 1 sumukh_g sumukh_g 15 Dec 29 20:20 fibbo.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 0 Apr 12 15:51 file1.txt  
-rw-rw-r-- 1 sumukh_g sumukh_g 0 Apr 12 15:54 file2.txt  
-rw-rw-r-- 1 sumukh_g sumukh_g 10240 Apr 13 11:57 hello.tar  
-r--rw-r-- 1 sumukh_g sumukh_g 63 Apr 12 15:58 hello.txt  
-rwxrwxrwx 1 sumukh_g sumukh_g 187 Dec 29 13:17 leap.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 51 Apr 12 15:57 linux_command.txt  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Music  
-rwxrwxrwx 1 sumukh_g sumukh_g 93 Dec 29 18:50 numpattern.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 237 Apr 13 11:54 out.tar.bz2  
-rwxrwxrwx 1 sumukh_g sumukh_g 89 Dec 29 18:42 pattern1.sh  
drwxr-xr-x 3 sumukh_g sumukh_g 4096 Apr 12 15:25 Pictures  
-rwxrwxrwx 1 sumukh_g sumukh_g 162 Dec 29 12:58 posnegzero.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Public  
-rw-rw-r-- 1 sumukh_g sumukh_g 42 Apr 12 16:59 sed.txt  
drwx----- 4 sumukh_g sumukh_g 4096 Apr 12 15:28 snap  
-rw-rw-r-- 1 sumukh_g sumukh_g 10240 Apr 13 11:53 t1.tar.bz2
```

```
sumukh_g@Sumukh:~$ history
1  #!/bin/bash
2  nano demo1.sh
3  ./demo1.sh
4  chmod 777 demo1.sh
5  ./demo1.sh
6  name
7  name=mumbai
8  echo name
9  echo $name
10 echo i am in $name right now
11 echo "i am in $name right now"
12 a=10
13 $a
14 echo $a
15 clear
16 nano demo1.sh
17 ./demo1.sh
18 nano demo1.sh
19 ./demo1.sh
20 nano demo1.sh
21 ./demo1.sh
22 clear
23 a=10
24 b=20
25 c
26 echo $c = $(a+b)
27 echo $c = $((a+b))
28 c
29 echo c
30 echo $c
31 $c = $((a+b))
32 echo $c
33 echo `expr $a + $b`
34 echo `expr $a * $b`
35 echo `expr $a \* $b`
36 nano demo1.sh
37 ./demo1.sh
38 nano demo1.sh
39 ./demo1.sh
40 clear
41 nano demo1.sh
42 clear
43 ./demo1.sh
44 clear
45 nano demo1.sh
46 ./demo1.sh
47 nano demo1.sh
48 ./demo1.sh
49 nano demo1.sh
50 ./demo1.sh
51 nano demo1.sh
52 clear
53 nano evenodd.sh
54 ./evenodd.sh
55 chmod 777 ./evenodd.sh
```

```
sumukh_g@Sumukh: ~  
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.  
italic text 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.  
  
Exact rendering may vary depending on the output device. For instance, man will usually not be able to render italics when running in a terminal, and will typically use underlined or coloured text instead.  
  
The command or function illustration is a pattern that should match all possible invocations. In some cases it is advisable to illustrate several exclusive invocations as is shown in the SYNOPSIS section of this manual page.  
  
EXAMPLES  
man ls  
Display the manual page for the item (program) ls.  
  
Manual page man(1) line 1/455 10% (press h for help or q to quit)
```

```
sumukh_g@Sumukh: ~  
sumukh_g@Sumukh:~$ cat hello.txt  
hello world  
how are you doing  
we are practicing linux commands  
sumukh_g@Sumukh:~$  
sumukh_g@Sumukh:~$ !!  
cat hello.txt  
hello world  
how are you doing  
we are practicing linux commands  
sumukh_g@Sumukh:~$ htop  
Command 'htop' not found, but can be installed with:  
snap install htop # version 3.2.2, or  
apt install htop # version 3.0.5-7build2  
See 'snap info htop' for additional versions.  
sumukh_g@Sumukh:~$ man  
What manual page do you want?  
For example, try 'man man'.  
sumukh_g@Sumukh:~$ man man  
sumukh_g@Sumukh:~$ what  
Command 'what' not found, did you mean:  
command 'wcat' from deb sac (1.9b5-3build1)  
command 'phat' from deb phat-utils (1.6-2build2)  
command 'chat' from deb ppp (2.4.9-1iubuntu3)  
command 'jhat' from deb openjdk-8-jdk-headless (8u352-ga-1-22.04)  
command 'wham' from deb wham-align (0.1.5-8)  
Try: apt install <deb name>  
sumukh_g@Sumukh:~$ kill firefox  
bash: kill: firefox: arguments must be process or job IDs  
sumukh_g@Sumukh:~$
```



```
sumukh_g@Sumukh: ~  
sumukh_g@Sumukh:~$ ls  
circle.sh  demo1.sh  dir1      Downloads  fact.sh  file1.txt  hello.txt  linux_command.txt  numpattern.sh  Pictures  Public  snap  Templates  Videos  
copy.txt   Desktop   Documents evenodd.sh  fibbo.sh  file2.txt  leap.sh    Music           pattern1.sh  posnegzero.sh  sed.txt  tables.sh  unix.txt  
sumukh_g@Sumukh:~$ tar -cvf hello.txt  
tar: Cowardly refusing to create an empty archive  
Try 'tar --help' or 'tar --usage' for more information.  
sumukh_g@Sumukh:~$ tar -cvf hello.tar hello.txt  
hello.txt  
sumukh_g@Sumukh:~$ tar -xvf hello.tar  
tar -xvf: command not found  
sumukh_g@Sumukh:~$ cat hello.tar  
hello.txt0000066400017500001750000000007714415503750013162 0ustar  sumukh_gsumukh_ghello world  
how are you doing  
we are practicing linux commands  
sumukh_g@Sumukh:~$ tar -xvf hello.tar  
hello.txt  
sumukh_g@Sumukh:~$ tar -tvf hello.tar  
-rw-rw-r-- sumukh_g/sumukh_g 63 2023-04-12 15:58 hello.txt  
sumukh_g@Sumukh:~$ tar -cvf t1.tar.bz unix.txt  
tar -cvf: command not found  
sumukh_g@Sumukh:~$ tar -cvf t1.tar.bz2 unix.txt  
unix.txt  
sumukh_g@Sumukh:~$ tar -jcvf out.tar.bz2 t1.tar  
tar: t1.tar: Cannot stat: No such file or directory  
tar: Exiting with failure status due to previous errors  
sumukh_g@Sumukh:~$ tar -jcvf out.tar.bz2 t1.tar.bz  
tar: t1.tar.bz: Cannot stat: No such file or directory  
tar: Exiting with failure status due to previous errors  
sumukh_g@Sumukh:~$ tar -jcvf out.tar.bz2 t1.tar.bz2  
t1.tar.bz2  
sumukh_g@Sumukh:~$ tar tf hello.tar  
hello.txt  
sumukh_g@Sumukh:~$ tar rvf hello.tar hello.txt  
hello.txt  
sumukh_g@Sumukh:~$
```

```
sumukh_g@Sumukh: ~  
sumukh_g@Sumukh:~$ ls  
circle.sh  demo1.sh  dir1      Downloads  fact.sh  file1.txt  hello.tar  leap.sh      Music      out.tar.bz2  Pictures  Public  snap      tables.sh  unix.txt  
copy.txt   Desktop  Documents evenodd.sh  fibbo.sh  file2.txt  hello.txt  linux_command.txt  numpattern.sh  pattern1.sh  posnegzero.sh  sed.txt  t1.tar.bz2  Templates  Videos  
sumukh_g@Sumukh:~$ groupadd group1  
groupadd: Permission denied.  
groupadd: cannot lock /etc/group; try again later.  
sumukh_g@Sumukh:~$ useradd mesumukh  
useradd: Permission denied.  
useradd: cannot lock /etc/passwd; try again later.  
sumukh_g@Sumukh:~$ ls -l  
total 128  
-rwxrwxrwx 1 sumukh_g sumukh_g 144 Dec 29 19:59 circle.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 51 Apr 12 16:04 copy.txt  
-rwxrwxrwx 1 sumukh_g sumukh_g 256 Dec 29 12:47 demo1.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Desktop  
drwxrwxr-x 3 sumukh_g sumukh_g 4096 Apr 12 16:49 dir1  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Documents  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Downloads  
-rwxrwxrwx 1 sumukh_g sumukh_g 119 Dec 29 12:54 evenodd.sh  
-rwxrwxrwx 1 sumukh_g sumukh_g 137 Dec 29 19:47 fact.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 15 Dec 29 20:20 fibbo.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 0 Apr 12 15:51 file1.txt  
-rw-rw-r-- 1 sumukh_g sumukh_g 0 Apr 12 15:54 file2.txt  
-rw-rw-r-- 1 sumukh_g sumukh_g 10240 Apr 13 11:57 hello.tar  
-rw-rw-r-- 1 sumukh_g sumukh_g 63 Apr 12 15:58 hello.txt  
-rwxrwxrwx 1 sumukh_g sumukh_g 187 Dec 29 13:17 leap.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 51 Apr 12 15:57 linux_command.txt  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Music  
-rwxrwxrwx 1 sumukh_g sumukh_g 93 Dec 29 18:50 numpattern.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 237 Apr 13 11:54 out.tar.bz2  
-rwxrwxrwx 1 sumukh_g sumukh_g 89 Dec 29 18:42 pattern1.sh  
drwxr-xr-x 3 sumukh_g sumukh_g 4096 Apr 12 15:25 Pictures  
-rwxrwxrwx 1 sumukh_g sumukh_g 162 Dec 29 12:58 posnegzero.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Public  
-rw-rw-r-- 1 sumukh_g sumukh_g 42 Apr 12 16:59 sed.txt  
drwx----- 4 sumukh_g sumukh_g 4096 Apr 12 15:28 snap  
-rw-rw-r-- 1 sumukh_g sumukh_g 10240 Apr 13 11:53 t1.tar.bz2  
-rwxrwxrwx 1 sumukh_g sumukh_g 496 Dec 29 16:14 tables.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Templates  
-rw-rw-r-- 1 sumukh_g sumukh_g 98 Apr 12 16:10 unix.txt  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Videos  
sumukh_g@Sumukh:~$ cat fibbo.sh  
#!/bin/bash  
  
sumukh_g@Sumukh:~$
```

```
sumukh_g@Sumukh: ~  
-rw-rw-r-- 1 sumukh_g sumukh_g 15 Dec 29 20:20 fibbo.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 0 Apr 12 15:51 file1.txt  
-rw-rw-r-- 1 sumukh_g sumukh_g 0 Apr 12 15:54 file2.txt  
-rw-rw-r-- 1 sumukh_g sumukh_g 10240 Apr 13 11:57 hello.tar  
-rw-rw-r-- 1 sumukh_g sumukh_g 63 Apr 12 15:58 hello.txt  
-rwxrwxrwx 1 sumukh_g sumukh_g 187 Dec 29 13:17 leap.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 51 Apr 12 15:57 linux_command.txt  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Music  
-rwxrwxrwx 1 sumukh_g sumukh_g 93 Dec 29 18:50 numpattern.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 237 Apr 13 11:54 out.tar.bz2  
-rwxrwxrwx 1 sumukh_g sumukh_g 89 Dec 29 18:42 pattern1.sh  
drwxr-xr-x 3 sumukh_g sumukh_g 4096 Apr 12 15:25 Pictures  
-rwxrwxrwx 1 sumukh_g sumukh_g 162 Dec 29 12:58 posnegzero.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Public  
-rw-rw-r-- 1 sumukh_g sumukh_g 42 Apr 12 16:59 sed.txt  
drwx----- 4 sumukh_g sumukh_g 4096 Apr 12 15:28 snap  
-rw-rw-r-- 1 sumukh_g sumukh_g 10240 Apr 13 11:53 t1.tar.bz2  
-rwxrwxrwx 1 sumukh_g sumukh_g 496 Dec 29 16:14 tables.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Templates  
-rw-rw-r-- 1 sumukh_g sumukh_g 98 Apr 12 16:10 unix.txt  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Videos  
sumukh_g@Sumukh:~$ chmod u=r hello.txt  
sumukh_g@Sumukh:~$ ls -l  
total 128  
-rwxrwxrwx 1 sumukh_g sumukh_g 144 Dec 29 19:59 circle.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 51 Apr 12 16:04 copy.txt  
-rwxrwxrwx 1 sumukh_g sumukh_g 256 Dec 29 12:47 demo1.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Desktop  
drwxrwxr-x 3 sumukh_g sumukh_g 4096 Apr 12 16:49 dir1  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Documents  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Downloads  
-rwxrwxrwx 1 sumukh_g sumukh_g 119 Dec 29 12:54 evenodd.sh  
-rwxrwxrwx 1 sumukh_g sumukh_g 137 Dec 29 19:47 fact.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 15 Dec 29 20:20 fibbo.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 0 Apr 12 15:51 file1.txt  
-rw-rw-r-- 1 sumukh_g sumukh_g 0 Apr 12 15:54 file2.txt  
-rw-rw-r-- 1 sumukh_g sumukh_g 10240 Apr 13 11:57 hello.tar  
-r--rw-r-- 1 sumukh_g sumukh_g 63 Apr 12 15:58 hello.txt  
-rwxrwxrwx 1 sumukh_g sumukh_g 187 Dec 29 13:17 leap.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 51 Apr 12 15:57 linux_command.txt  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Music  
-rwxrwxrwx 1 sumukh_g sumukh_g 93 Dec 29 18:50 numpattern.sh  
-rw-rw-r-- 1 sumukh_g sumukh_g 237 Apr 13 11:54 out.tar.bz2  
-rwxrwxrwx 1 sumukh_g sumukh_g 89 Dec 29 18:42 pattern1.sh  
drwxr-xr-x 3 sumukh_g sumukh_g 4096 Apr 12 15:25 Pictures  
-rwxrwxrwx 1 sumukh_g sumukh_g 162 Dec 29 12:58 posnegzero.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Public  
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drwx----- 4 sumukh_g sumukh_g 4096 Apr 12 15:28 snap  
-rw-rw-r-- 1 sumukh_g sumukh_g 10240 Apr 13 11:53 t1.tar.bz2  
-rwxrwxrwx 1 sumukh_g sumukh_g 496 Dec 29 16:14 tables.sh  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Templates  
-rw-rw-r-- 1 sumukh_g sumukh_g 98 Apr 12 16:10 unix.txt  
drwxr-xr-x 2 sumukh_g sumukh_g 4096 Dec 28 10:23 Videos  
sumukh_g@Sumukh:~$
```