

Question no.1

Go to the textbook and go through “What is This Unix Stuff?”

Answer the following question:

- Name the three multi-concept that are at the heart of Unix’s power. Explain each multi concepts.
 - a) Multiuser system: Unix can be used by several people at the same it. It is a larger operating system. It also helps multiple users to run multiple jobs and a single user to run multiple jobs.
 - b) Multitasking: Unix users can run multiple programs at the same time. The kernel is designed to handle users’ multiple needs such as printing, editing, and sending mail at the same time. Even though on the front screen it seems like one task is performed, in the background, multiple tasks will perform at the same time. Users can also terminate or cancel the task at any time.
 - c) Simplicity: Unix language can easily be understood because it is spoken language. It is built with simple, clear, and extensible code that can be easily modified and maintained. A Unix user can write a new version of a command to solve different problems.

- Systems that support multiple users always ask you to say who you are when you begin using the system. What's the most important thing to remember when you're finished using the system?

➔ The goal of a multiuser system is to make all users feel they have their personal computers even though they are in a large system. When you are working in a system, it needs to know who you are. Unix is designed for multiuser, so the system needs to conform to the identity of the user so that the stop and protects the file from others who try to be like you, prying into your files, private letters, and altering memos. As a result, Unix has an associated password for all the accounts.

The important thing to remember is to exit the session, or, in effect turn off our virtual personal computer after we are done to protect our files.

Question no.2

Using webminal, please type this in the command line:

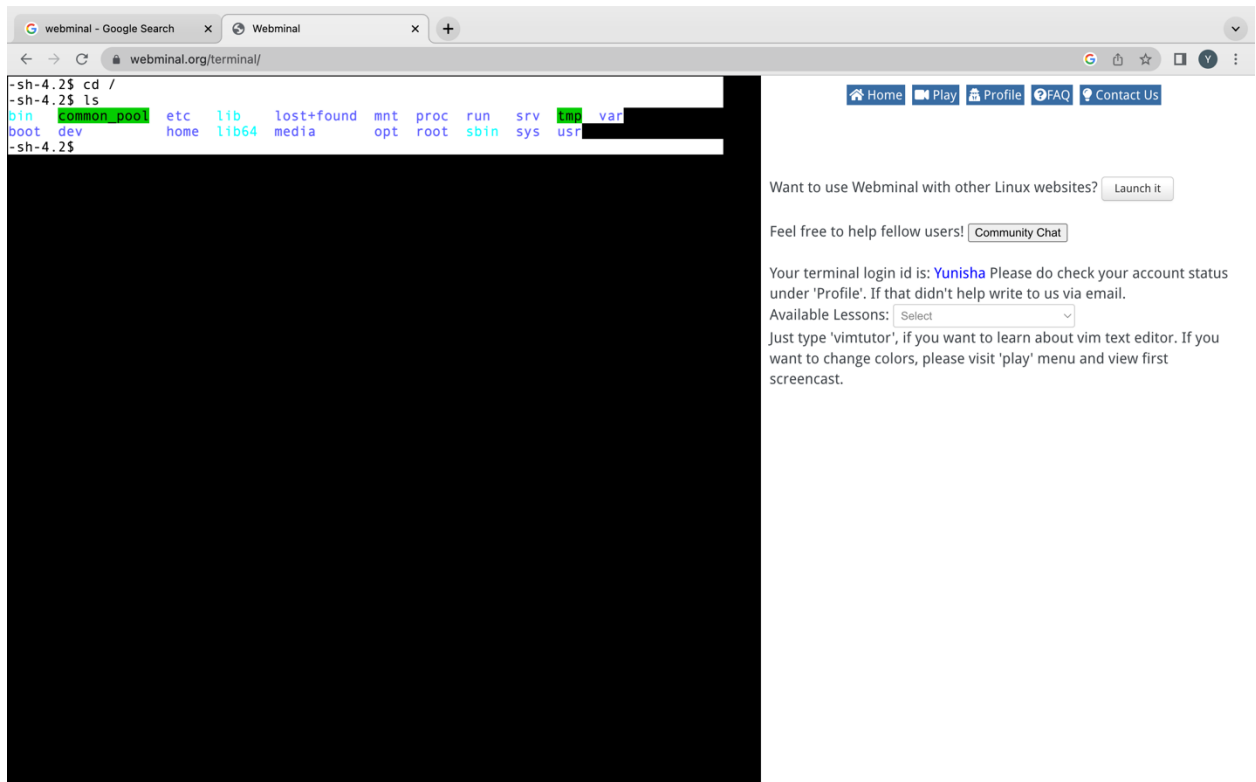
```
cd /
```

```
ls
```

Tell me what directories exist at this level. Do you see these directories?

- sbin

- bin
- proc
- usr
- home
- var
- dev
- tmp

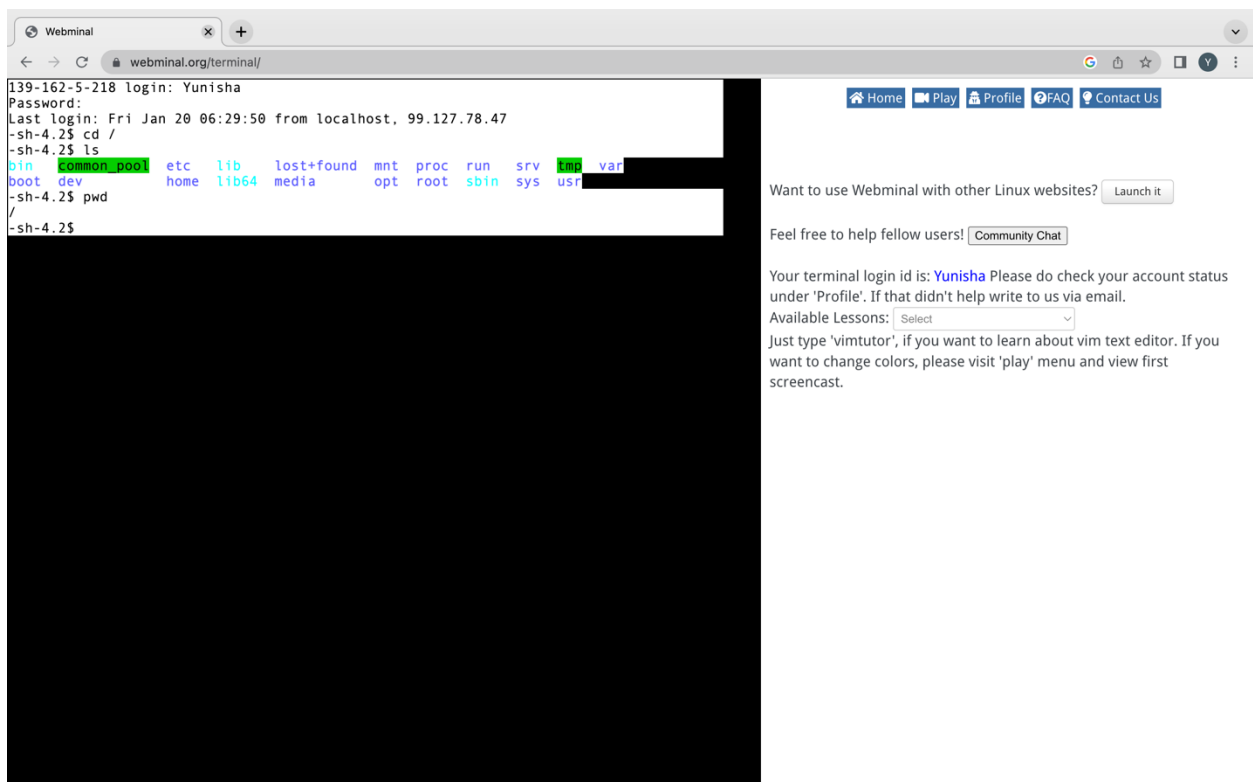


The command `cd /` is used to change the directory to the root directory. Root directories are the first directory in our file system. And in directories that exist at the movement were bin, proc, usr, tmp, dev, var, home, and sbin.

Question no. 3

Using any terminal, type the following commands and let me know what is returned.

1) pwd:

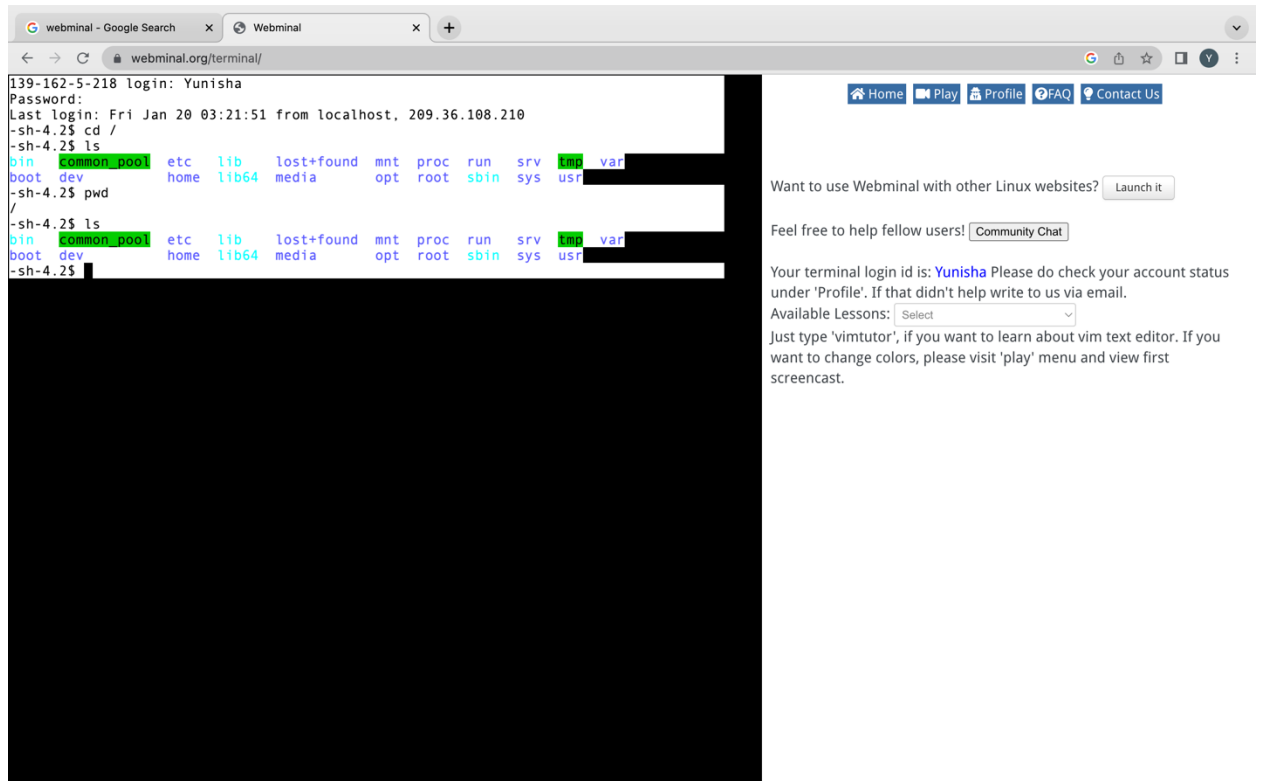


```
139-162-5-218 login: Yunisha
Password:
Last login: Fri Jan 20 06:29:50 from localhost, 99.127.78.47
-sh-4.2$ cd /
-sh-4.2$ ls
bin  common_pool  etc  lib  lost+found  mnt  proc  run  srv  tmp  var
boot  dev  home  lib64  media  opt  root  sbin  sys  usr
-sh-4.2$ pwd
/
-sh-4.2$
```

Webterminal interface showing a terminal session. The terminal output shows the user logging in as Yunisha, the last login time, and the execution of the 'cd /' and 'ls' commands. The 'ls' command output lists the contents of the root directory. The 'pwd' command is executed, and the output is not visible in the screenshot. The sidebar on the right contains navigation links (Home, Play, Profile, FAQ, Contact Us) and a message about using Webterminal with other Linux websites. It also includes a 'Launch it' button, a 'Community Chat' link, and information about the terminal login ID and available lessons.

pwd stands out for print working directory which prints the path of the working directory. Thus, I was working in the root directory.

2) Ls:



```
139-162-5-218 login: Yunisha
Password:
Last login: Fri Jan 20 03:21:51 from localhost, 209.36.108.210
-sh-4.2$ cd /
-sh-4.2$ ls
bin  common_pool  etc  lib  lost+found  mnt  proc  run  srv  sys  usr  var
boot dev  home  lib64  media  opt  root  sbin  sys  usr
-sh-4.2$ pwd
/
-sh-4.2$ ls
bin  common_pool  etc  lib  lost+found  mnt  proc  run  srv  sys  usr  var
boot dev  home  lib64  media  opt  root  sbin  sys  usr
-sh-4.2$
```

Its function is to list the directory contents of files and directories.

3) Ls -l

The screenshot shows a web browser window with the address bar displaying 'webminal.org/terminal/'. The terminal window shows a login session for 'Yunisha' with IP '139-162-5-218'. The user enters the password and is prompted with a shell prompt. The user then runs 'ls' and 'ls -l' commands. The output of 'ls -l' is a long listing of files and directories, including 'bin', 'boot', 'dev', 'etc', 'home', 'lib', 'lib64', 'media', 'mnt', 'opt', 'proc', 'run', 'srv', 'usr', and 'var'. The listing shows permissions, owner, group, size, date, and file name. The user then runs 'ls -l' again, showing the same output. The terminal window is titled 'Webminal' and has a navigation bar with links: Home, Play, Profile, FAQ, and Contact Us. There are also buttons for 'Launch it' and 'Community Chat'. A message on the right side of the terminal window says: 'Your terminal login id is: Yunisha Please do check your account status under 'Profile'. If that didn't help write to us via email. Available Lessons: Select Just type 'vimtutor', if you want to learn about vim text editor. If you want to change colors, please visit 'play' menu and view first screencast.'

```
139-162-5-218 login: Yunisha
Password:
Last login: Fri Jan 20 06:29:50 from localhost, 99.127.78.47
~sh-4.2$ cd /
~sh-4.2$ ls
bin  common_pool  etc  lib  lost+found  mnt  proc  run  srv  tmp  var
boot  dev  home  lib64  media  opt  root  sbin  sys  usr
~sh-4.2$ pwd
/
~sh-4.2$ ls
bin  common_pool  etc  lib  lost+found  mnt  proc  run  srv  tmp  var
boot  dev  home  lib64  media  opt  root  sbin  sys  usr
~sh-4.2$ ls -l
total 7836
lrwxrwxrwx. 1 root root 7 Jul 29 2021 bin -> usr/bin
dr-xr-xr-x. 5 root root 4096 Dec 25 2021 boot
drwxrwxrwt. 4 root root 4096 Mar 29 2022 common_pool
drwxr-xr-x. 19 root root 3140 May 22 2022 dev
drwxr-xr-x. 79 root root 4096 Jan 20 06:32 etc
drwxr-xr-x. 213662 root root 5361664 Jan 20 06:32 home
lrwxrwxrwx. 1 root root 7 Jul 29 2021 lib -> usr/lib
lrwxrwxrwx. 1 root root 9 Jul 29 2021 lib64 -> usr/lib64
drwx----- 2 root root 16384 Jul 29 2021 lost+found
drwxr-xr-x. 2 root root 4096 Apr 11 2018 media
drwxr-xr-x. 2 root root 4096 Apr 11 2018 mnt
drwxr-xr-x. 2 root root 4096 Apr 11 2018 opt
dr-xr-xr-x. 419 root root 0 May 22 2022 proc
dr-xr-xr-x. 14 root root 4096 Jan 1 03:20 root
drwxr-xr-x. 27 root root 740 Jul 30 05:59 run
lrwxrwxrwx. 1 root root 8 Jul 29 2021 sbin -> usr/sbin
drwxr-xr-x. 2 root root 4096 Apr 11 2018 srv
dr-xr-xr-x. 13 root root 0 May 22 2022 sys
drwxrwxrwt. 12 root root 36864 Jan 20 06:32 tmp
drwxr-xr-x. 13 root root 4096 Jul 29 2021 usr
drwxr-xr-x. 20 root root 4096 Dec 25 2021 var
~sh-4.2$
```

It shows a long listing of information about the file/directory.

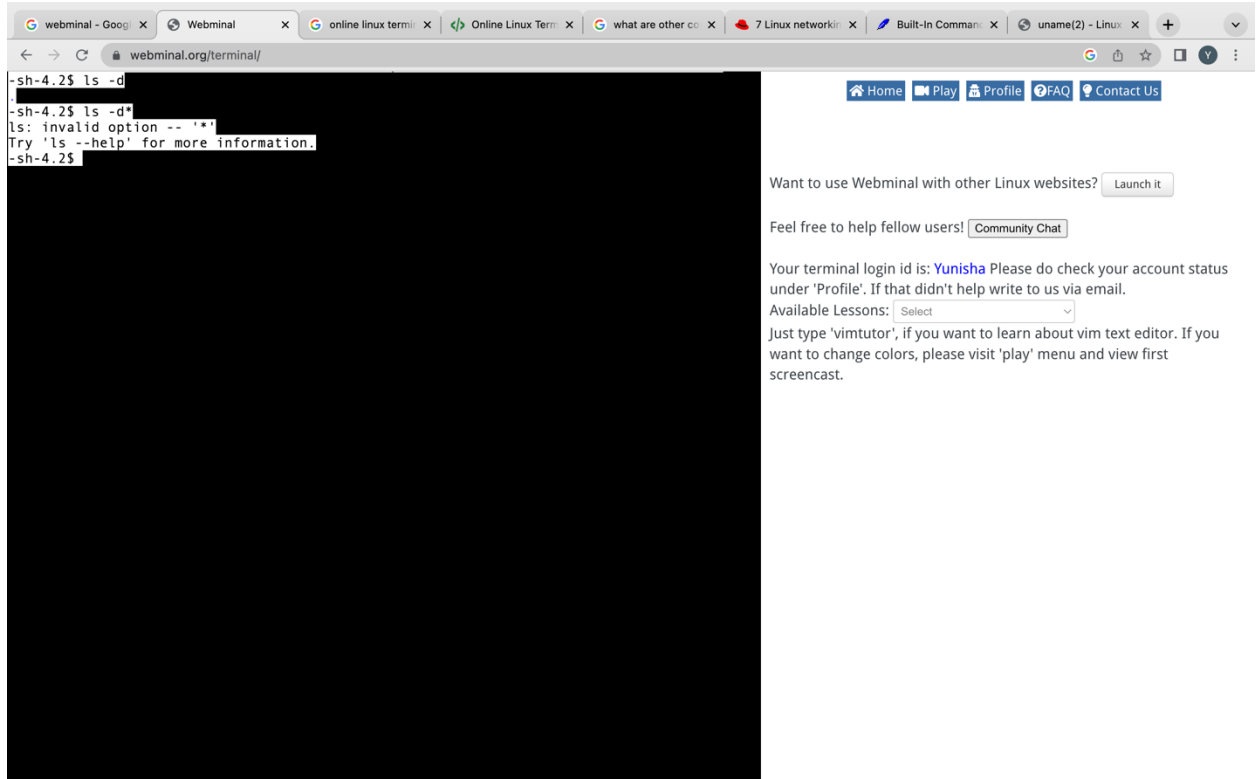
4)ls -a

```
Webminal
webminal.org/terminal/

139-162-5-218 login: Yunisha
Password:
Last login: Fri Jan 20 06:29:50 from localhost, 99.127.78.47
-sh-4.2$ cd /
-sh-4.2$ ls
bin  common_pool  etc  lib  lost+found  mnt  proc  run  srv  tmp  var
boot  dev  home  lib64  media  opt  root  sbin  sys  usr
-sh-4.2$ pwd
/
-sh-4.2$ ls
bin  common_pool  etc  lib  lost+found  mnt  proc  run  srv  tmp  var
boot  dev  home  lib64  media  opt  root  sbin  sys  usr
-sh-4.2$ ls -l
total 7836
lrwxrwxrwx. 1 root root 7 Jul 29 2021 bin -> usr/bin
dr-xr-xr-x. 5 root root 4096 Dec 25 2021 boot
drwxrwxrwt. 4 root root 4096 Mar 29 2022 common_pool
drwxr-xr-x. 19 root root 3140 May 22 2022 dev
drwxr-xr-x. 79 root root 4096 Jan 20 06:32 etc
drwxr-xr-x. 213662 root root 5361664 Jan 20 06:32 home
lrwxrwxrwx. 1 root root 7 Jul 29 2021 lib -> usr/lib
lrwxrwxrwx. 1 root root 9 Jul 29 2021 lib64 -> usr/lib64
drwx----- 2 root root 16384 Jul 29 2021 lost+found
drwxr-xr-x. 2 root root 4096 Apr 11 2018 media
drwxr-xr-x. 2 root root 4096 Apr 11 2018 mnt
drwxr-xr-x. 2 root root 4096 Apr 11 2018 opt
dr-xr-xr-x. 419 root root 0 May 22 2022 proc
dr-xr-xr-x. 14 root root 4096 Jan 1 03:20 root
drwxr-xr-x. 27 root root 740 Jul 30 05:59 run
lrwxrwxrwx. 1 root root 8 Jul 29 2021 sbin -> usr/sbin
drwxr-xr-x. 2 root root 4096 Apr 11 2018 srv
dr-xr-xr-x. 13 root root 0 May 22 2022 sys
drwxrwxrwt. 12 root root 36864 Jan 20 06:32 tmp
drwxr-xr-x. 13 root root 4096 Jul 29 2021 usr
drwxr-xr-x. 20 root root 4096 Dec 25 2021 var
-sh-4.2$ ls -a
.  bin  common_pool  etc  lib  lost+found  mnt  proc  run  srv  tmp  var
.. boot  dev  home  lib64  media  opt  root  sbin  sys  usr
-sh-4.2$
```

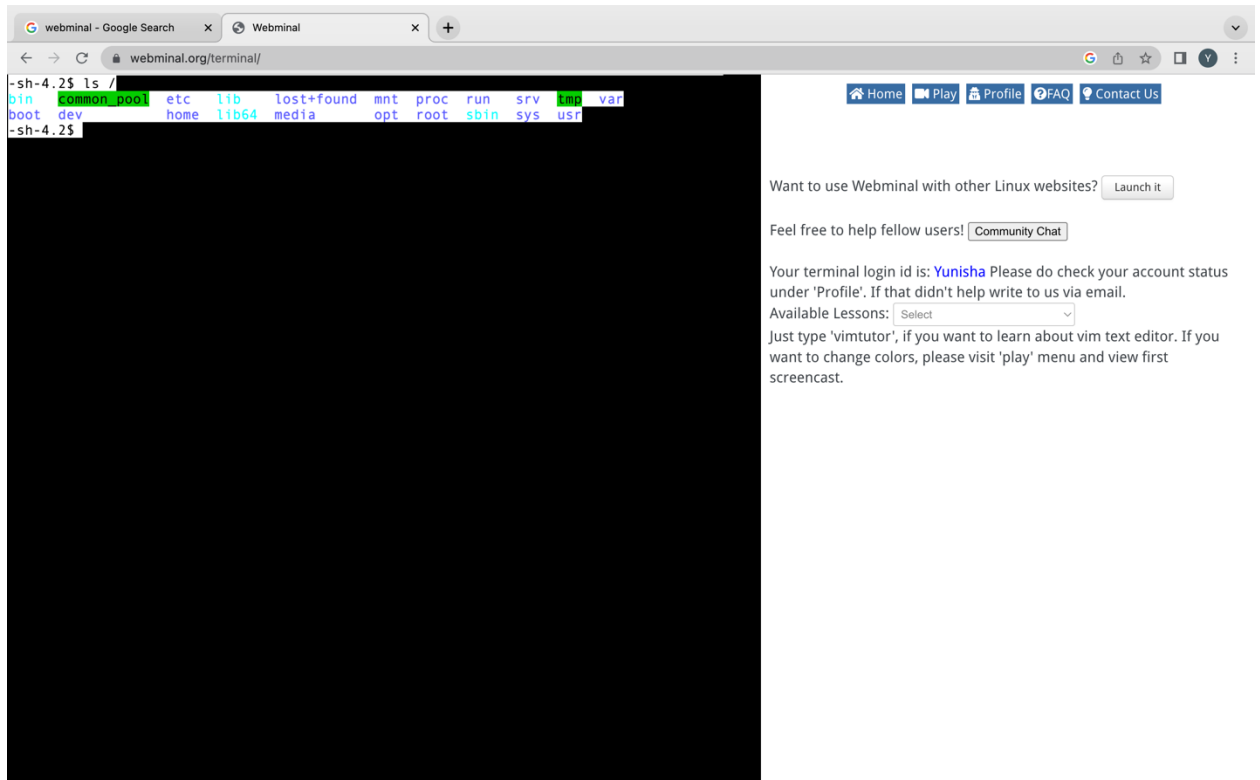
It shows all the hidden files in the directory where hidden files start with '.' in the file. Where '.' shows the current directory and '..' show the parent directory.

5) `ls -d*` :



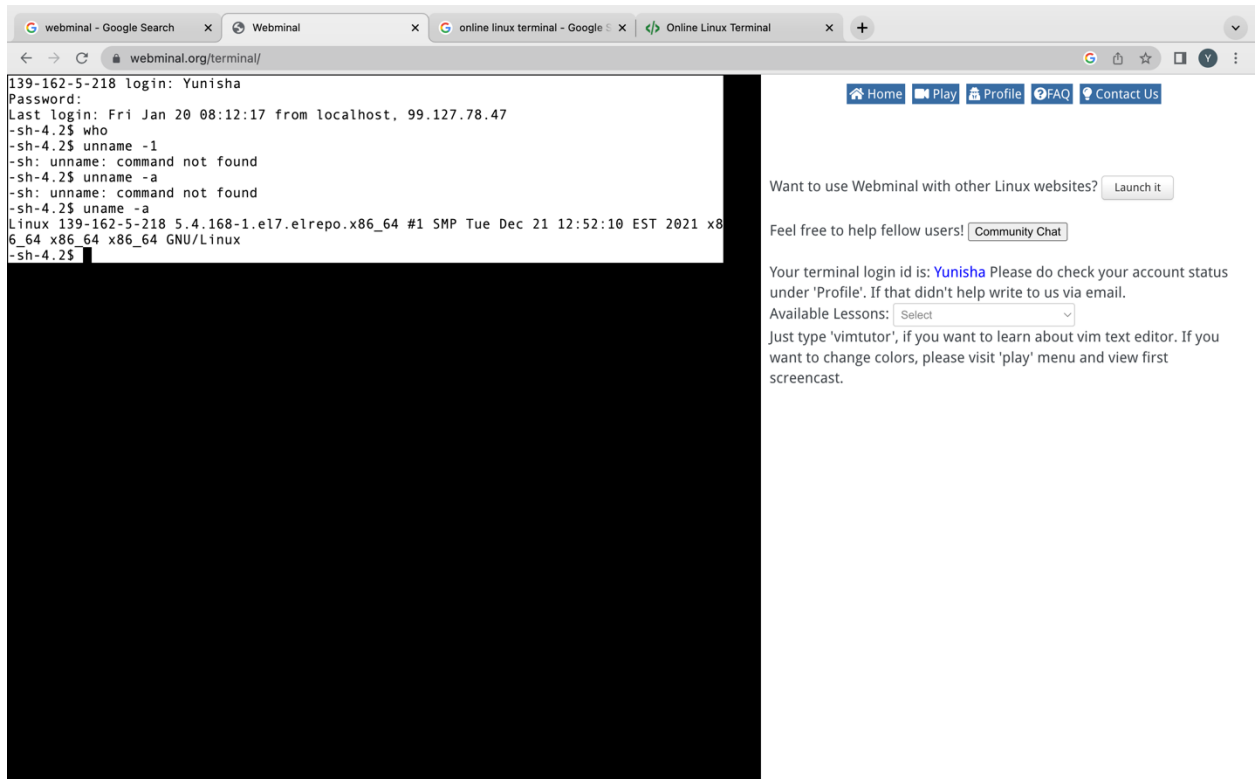
Ls -d* shows the list of files or directories.

6) Ls /



It lists the contents of the root directory.

7) `uname -a`



It displays all the information, except for omit -p and -i.

8) Man uname. Try another command other than uname

webminal - Google x Webminal x online linux termi x Online Linux Term x what are other co x 7 Linux networki x Built-in Comm x uname(2) - Linux x +

webminal.org/terminal/

```
-sh-4.2$ ls -d
-sh-4.2$ ls -d*
ls: invalid option -- '*'
Try 'ls --help' for more information.
-sh-4.2$ man uname
-sh-4.2$ man ls
-sh-4.2$
```

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Your terminal login id is: **Yunisha** Please do check your account status under 'Profile'. If that didn't help write to us via email.

Available Lessons:

Just type 'vimtutor', if you want to learn about vim text editor. If you want to change colors, please visit 'play' menu and view first screencast.

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webminal.org/terminal/

LS(1) User Commands LS(1)

NAME

ls - list directory contents

SYNOPSIS

ls [OPTION]... [FILE]...

DESCRIPTION

List information about the FILES (the current directory by default). Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.

-a, --all do not ignore entries starting with .

-A, --almost-all do not list implied . and ..

--author with -l, print the author of each file

-b, --escape print C-style escapes for nongraphic characters

--block-size=SIZE scale sizes by SIZE before printing them; e.g., '--block-size=M' prints sizes in units of 1,048,576 bytes; see SIZE format below

-B, --ignore-backups do not list implied entries ending with ~

-c with -lt: sort by, and show, ctime (time of last modification of file status information); with -l: show ctime and sort by name; otherwise: sort by ctime, newest first

-C list entries by columns

--color[=WHEN] colorize the output; WHEN can be 'never', 'auto', or 'always' (the default); more info below

-d, --directory

Manual page ls(1) line 1 (press h for help or q to quit)

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Your terminal login id is: **Yunisha** Please do check your account status under 'Profile'. If that didn't help write to us via email.

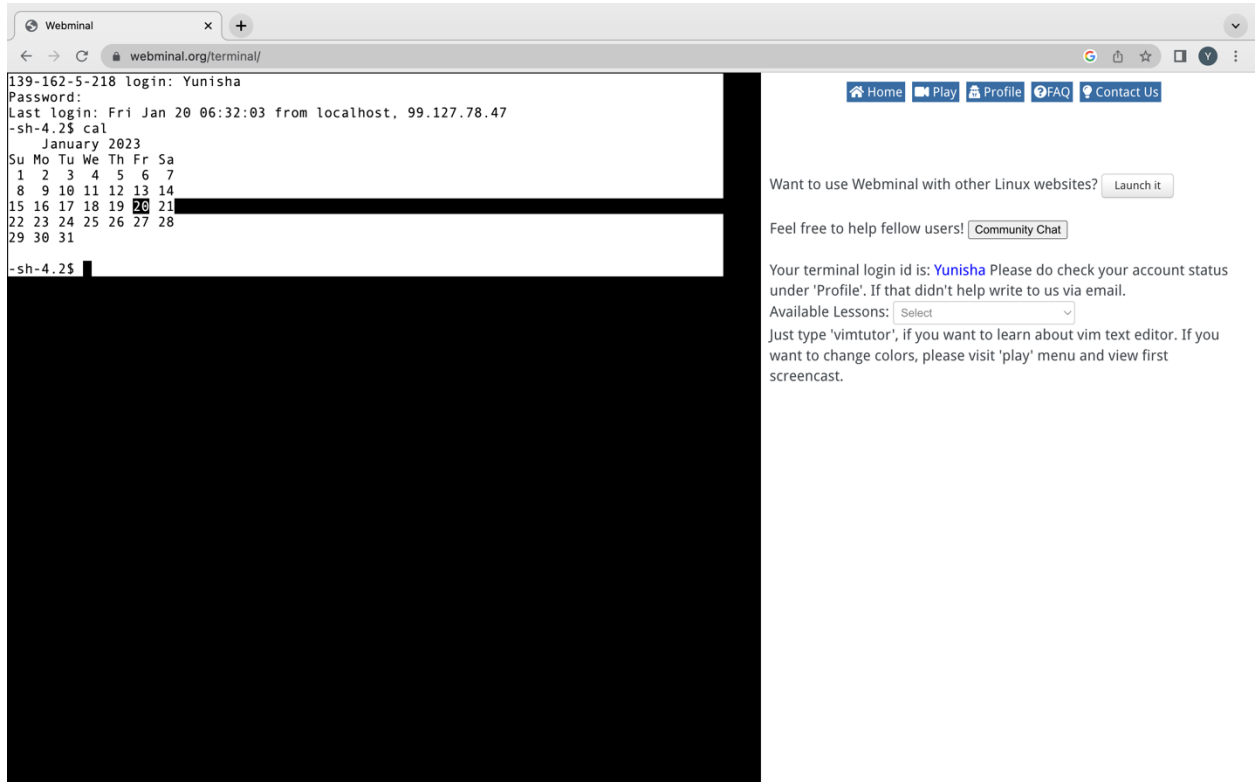
Available Lessons:

Just type 'vimtutor', if you want to learn about vim text editor. If you want to change colors, please visit 'play' menu and view first screencast.

It is used to display the user manual of any command.
The above manual is of ls. The manual gives the

information which includes Name, Description, Options, Exit status, Return values, errors, and Files.

9) Cal:



```
139-162-5-218 login: Yunisha
Password:
Last login: Fri Jan 20 06:32:03 from localhost, 99.127.78.47
~sh-4.2$ cal
      January 2023
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
~sh-4.2$
```

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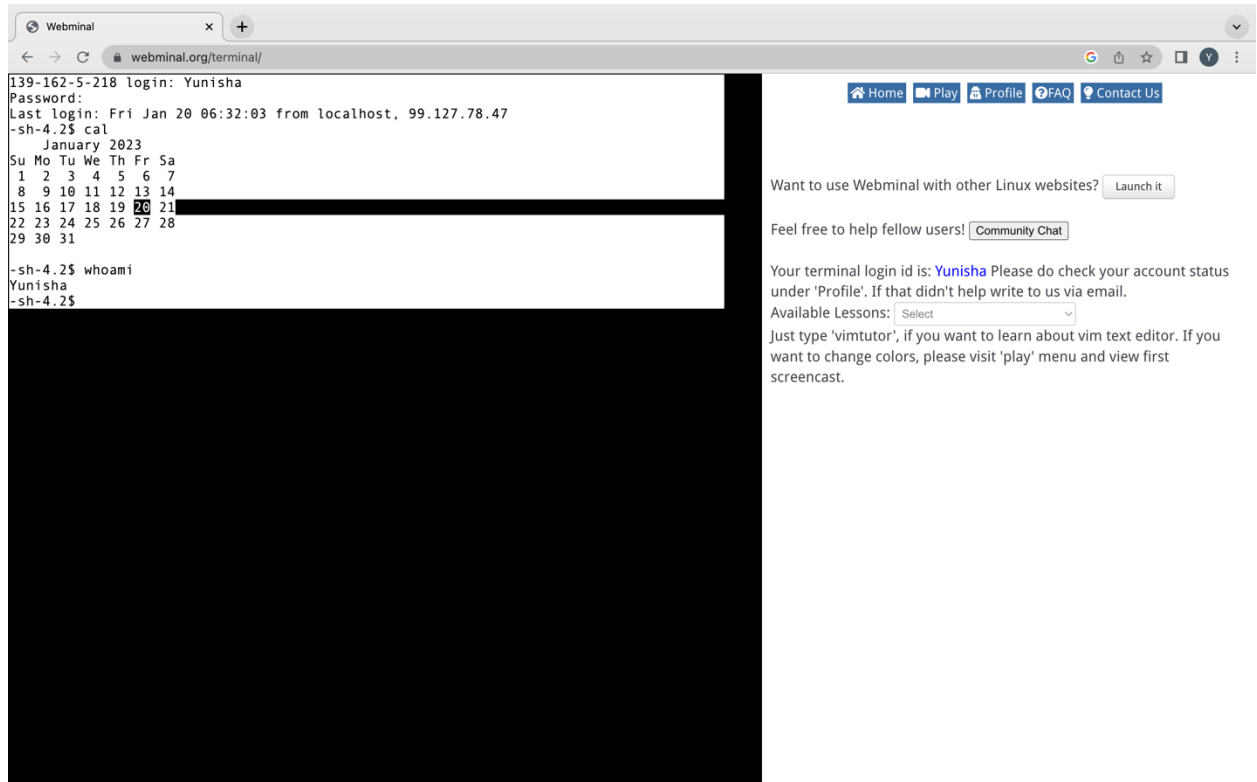
Your terminal login id is: **Yunisha** Please do check your account status under 'Profile'. If that didn't help write to us via email.

Available Lessons:

Just type 'vimtutor', if you want to learn about vim text editor. If you want to change colors, please visit 'play' menu and view first screencast.

Cal is a calendar command which is used to see a specific month or a whole year. It shows the current month calendar which you give the command without any option.

10) whoami



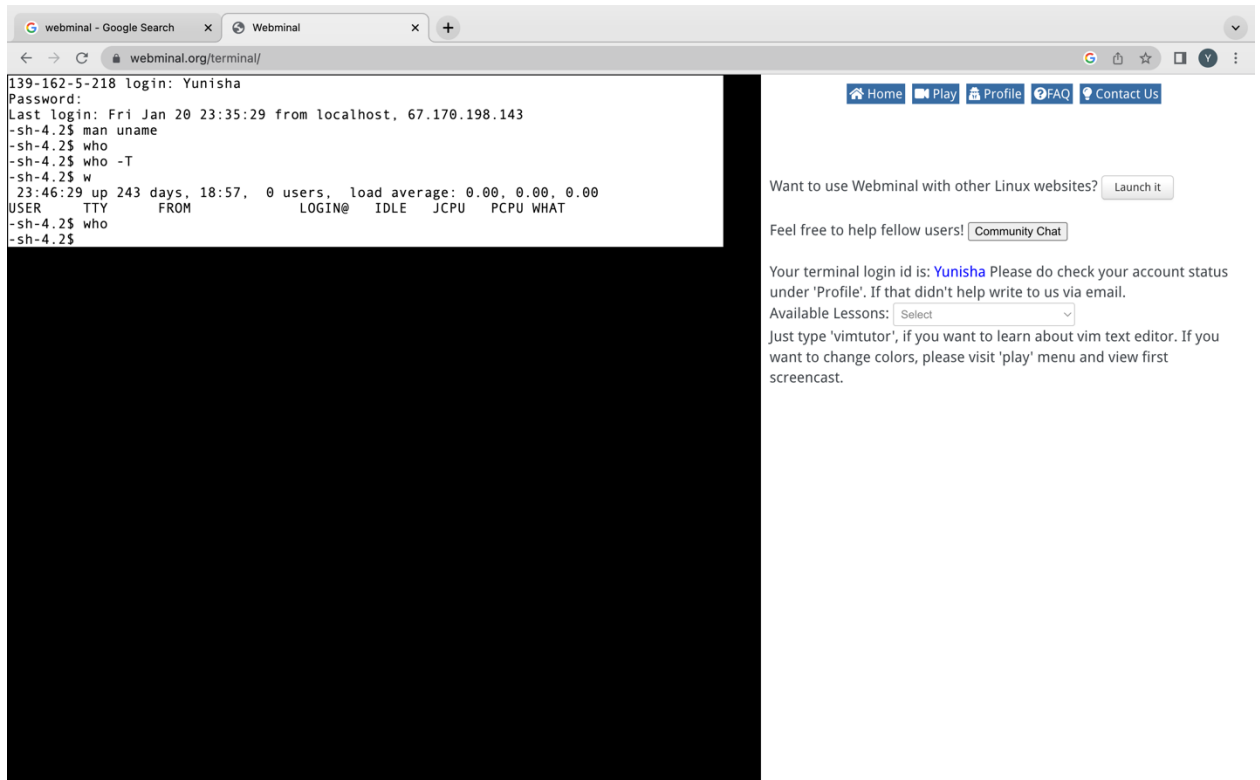
The screenshot shows a web browser window with the address bar displaying 'webminal.org/terminal/'. The terminal window shows a login session for 'Yunisha'. The user has entered their password and is now at a shell prompt. They have run the 'cal' command, which displays the calendar for January 2023. The calendar shows that the 20th is a Friday and the 21st is a Saturday. The user then runs the 'whoami' command, and the output is 'Yunisha'. The terminal window also shows the user's IP address '139-162-5-218' and the last login time 'Fri Jan 20 06:32:03 from localhost, 99.127.78.47'. The terminal window is titled 'Webminal' and has a navigation bar with links to Home, Play, Profile, FAQ, and Contact Us. There is also a 'Launch it' button and a 'Community Chat' link.

```
139-162-5-218 login: Yunisha
Password:
Last login: Fri Jan 20 06:32:03 from localhost, 99.127.78.47
-sh-4.2$ cal
      January 2023
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

-sh-4.2$ whoami
Yunisha
-sh-4.2$
```

It helps us to see the currently logged-in user. It gives the username of the current shell as the output.

11) Who



```
139-162-5-218 login: Yunisha
Password:
Last login: Fri Jan 20 23:35:29 from localhost, 67.170.198.143
-sh-4.2$ man uname
-sh-4.2$ who
-sh-4.2$ who -T
-sh-4.2$ w
23:46:29 up 243 days, 18:57, 0 users, load average: 0.00, 0.00, 0.00
USER      TTY      FROM          LOGIN@  IDLE   JCPU   PCPU WHAT
-sh-4.2$ who
```

Who commands display the information of each user login name, terminal line, long time of the user in the system, and remote hostname of the user. I found from the resource if the who is not working it is because of the defunct state.

12) top

top - 06:54:39 up 243 days, 2:05, 0 users, load average: 0.08, 0.18, 0.24
Tasks: 2 total, 1 running, 1 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.2 us, 0.1 sy, 0.0 ni, 99.7 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 16399684 total, 1677172 free, 2380880 used, 12341632 buff/cache
KiB Swap: 0 total, 0 free, 0 used, 12927796 avail Mem

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
4289	Yunisha	20	0	115684	3756	3116	S	0.0	0.0	0:00.03	sh
4613	Yunisha	20	0	161992	4456	3888	R	0.0	0.0	0:00.02	top

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Your terminal login id is: **Yunisha** Please do check your account status under 'Profile'. If that didn't help write to us via email.

Available Lessons:

Just type 'vimtutor', if you want to learn about vim text editor. If you want to change colors, please visit 'play' menu and view first screencast.

The summary information about the system as well as the current working shell's list of processes or threads is displayed by this command. The process and resource usage statistics are in the upper part, and a list of currently running processes is in the lower part.

13) `mkdir Dir1`

The screenshot shows a web browser window with a terminal interface. The terminal output is as follows:

```
-sh-4.2$ ls mkdir Dir1
ls: cannot access mkdir: No such file or directory
Dir1:
-sh-4.2$ ls -l
total 8
-rw-rw-r--. 1 Yunisha Yunisha 41 Jan 20 06:48 d
drwxrwxr-x. 2 Yunisha Yunisha  6 Jan 20 06:55 Dir1
-rw-rw-r--. 1 Yunisha Yunisha  0 Jan 20 06:55 file1
-rw-rw-r--. 1 Yunisha Yunisha 142 Jan 20 06:45 text
-sh-4.2$
```

On the right side of the terminal window, there is a sidebar with navigation links: Home, Play, Profile, FAQ, and Contact Us. Below these links, there is a section with the following text:

Want to use Webmin with other Linux websites? [Launch it](#)

Feel free to help fellow users! [Community Chat](#)

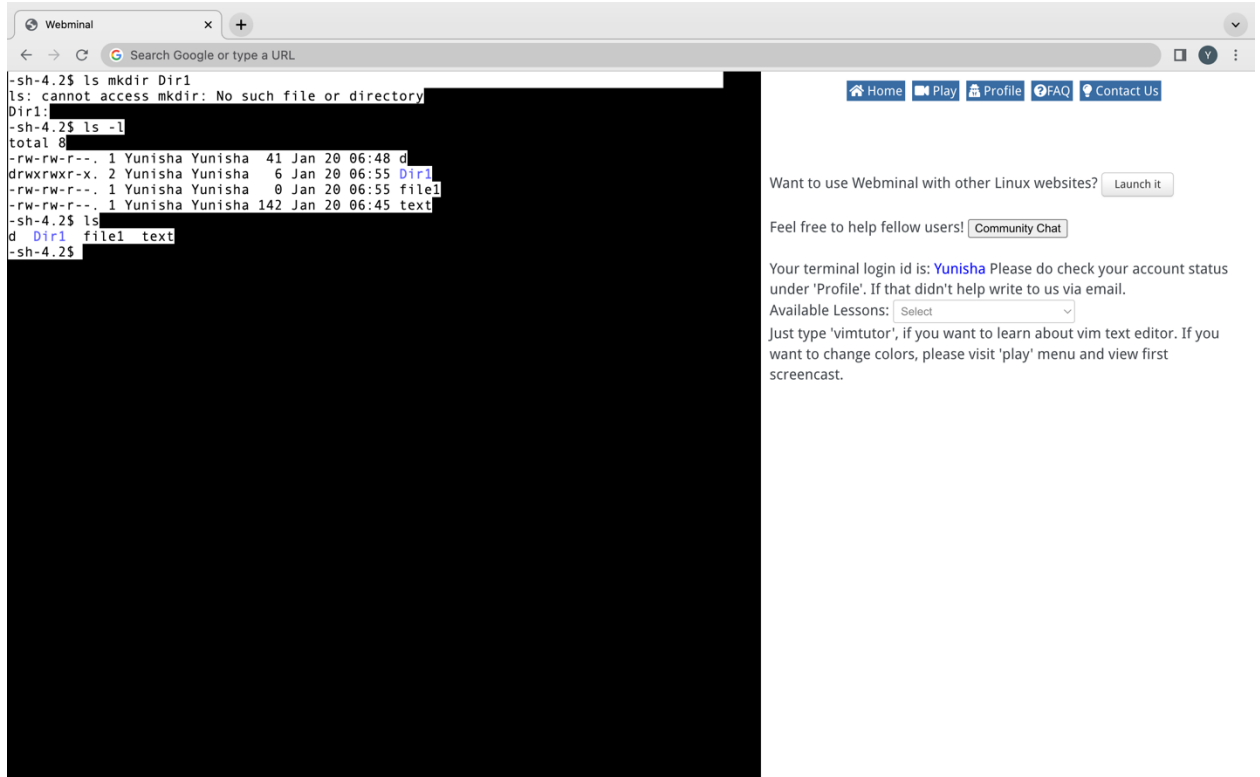
Your terminal login id is: **Yunisha** Please do check your account status under 'Profile'. If that didn't help write to us via email.

Available Lessons:

Just type 'vimtutor', if you want to learn about vim text editor. If you want to change colors, please visit 'play' menu and view first screencast.

It allows creating the directories. It can also create many directories at once and be able to set the permission for the directories.

14) touch file1



The screenshot shows a web browser window with a terminal interface. The terminal output is as follows:

```
-sh-4.2$ ls mkdir Dir1
ls: cannot access mkdir: No such file or directory
Dir1:
-sh-4.2$ ls -l
total 8
-rw-rw-r--. 1 Yunisha Yunisha 41 Jan 20 06:48 d
drwxrwxr-x. 2 Yunisha Yunisha  6 Jan 20 06:55 Dir1
-rw-rw-r--. 1 Yunisha Yunisha  0 Jan 20 06:55 file1
-rw-rw-r--. 1 Yunisha Yunisha 142 Jan 20 06:45 text
-sh-4.2$ ls
d Dir1 file1 text
-sh-4.2$
```

On the right side of the terminal window, there is a sidebar with navigation links: Home, Play, Profile, FAQ, and Contact Us. Below these links, there is a section titled "Want to use Webmin with other Linux websites?" with a "Launch it" button. Further down, there is a "Community Chat" button. A message states: "Your terminal login id is: Yunisha Please do check your account status under 'Profile'. If that didn't help write to us via email." Below this, there is a dropdown menu for "Available Lessons:" with a "Select" option. At the bottom, there is a note: "Just type 'vimtutor', if you want to learn about vim text editor. If you want to change colors, please visit 'play' menu and view first screencast."

It is used to create, change, and modify the file.

15) echo \$HOME:

```
-sh-4.2$ ls mkdir Dir1
ls: cannot access mkdir: No such file or directory
Dir1:
-sh-4.2$ ls -l
total 8
-rw-rw-r--. 1 Yunisha Yunisha 41 Jan 20 06:48 d
drwxrwxr-x. 2 Yunisha Yunisha  6 Jan 20 06:55 Dir1
-rw-rw-r--. 1 Yunisha Yunisha  0 Jan 20 06:55 file1
-rw-rw-r--. 1 Yunisha Yunisha 142 Jan 20 06:45 text
-sh-4.2$ ls
d Dir1 file1 text
-sh-4.2$ echo $HOME
/home/Yunisha
-sh-4.2$
```

It is used to display a line of text/string that is passed as an argument.

16) man ls > file 1; Does file 1 exist now? If so, what is in file 1?

```
-sh-4.2$ ls /
bin  common_pool  etc  lib  lost+found  mnt  proc  run  srv  tmp  var
boot  dev  home  lib64  media  opt  root  sbin  sys  usr

-sh-4.2$ ls file 1
ls: cannot access '1': No such file or directory

-sh-4.2$ ls file1
file1

-sh-4.2$ man ls > file1

-sh-4.2$ file file1
file1: UTF-8 Unicode text

-sh-4.2$
```

man ls help to list out the manual of the command. >
is the output redirection operator used for
overwriting files that exist in the directory.
File 1 is a Unicode text. Yes, the file exists.
This is there in file 1 as shown below.

The screenshot shows a web browser window with two tabs: 'webminal - Google Search' and 'Webminal'. The address bar shows 'webminal.org/terminal/'. The main content area is a terminal window titled 'User Commands' with 'LS(1)' in the top left and right corners. The terminal displays the help text for the 'ls' command, organized into sections: NAME, SYNOPSIS, and DESCRIPTION. The DESCRIPTION section contains detailed information about the command's options and behavior. On the right side of the terminal window, there is a sidebar with navigation links: Home, Play, Profile, FAQ, and Contact Us. Below these links, there are several informational messages, including a prompt to use Webminal with other Linux websites, a link to the Community Chat, and a message about the user's terminal login ID and account status.

```
LS(1) User Commands LS(1)

NAME
  ls - list directory contents

SYNOPSIS
  ls [OPTION]... [FILE]...

DESCRIPTION
  List information about the FILES (the current directory by default). Sort
  entries alphabetically if none of -cftuvSUX nor --sort is specified.

  Mandatory arguments to long options are mandatory for short options too.

  -a, --all
      do not ignore entries starting with .

  -A, --almost-all
      do not list implied . and ..

  --author
      with -l, print the author of each file

  -b, --escape
      print C-style escapes for nongraphic characters

  --block-size=SIZE
      scale sizes by SIZE before printing them; e.g., '--block-size=M'
      prints sizes in units of 1,048,576 bytes; see SIZE format below

  -B, --ignore-backups
      do not list implied entries ending with ~

  -c
      with -lt: sort by, and show, ctime (time of last modification of file
      status information); with -l: show ctime and sort by name; otherwise:
      sort by ctime, newest first

  -C
      list entries by columns

  --color[=WHEN]
      colorize the output; WHEN can be 'never', 'auto', or 'always' (the
      default); more info below

--More-- (17%)
```

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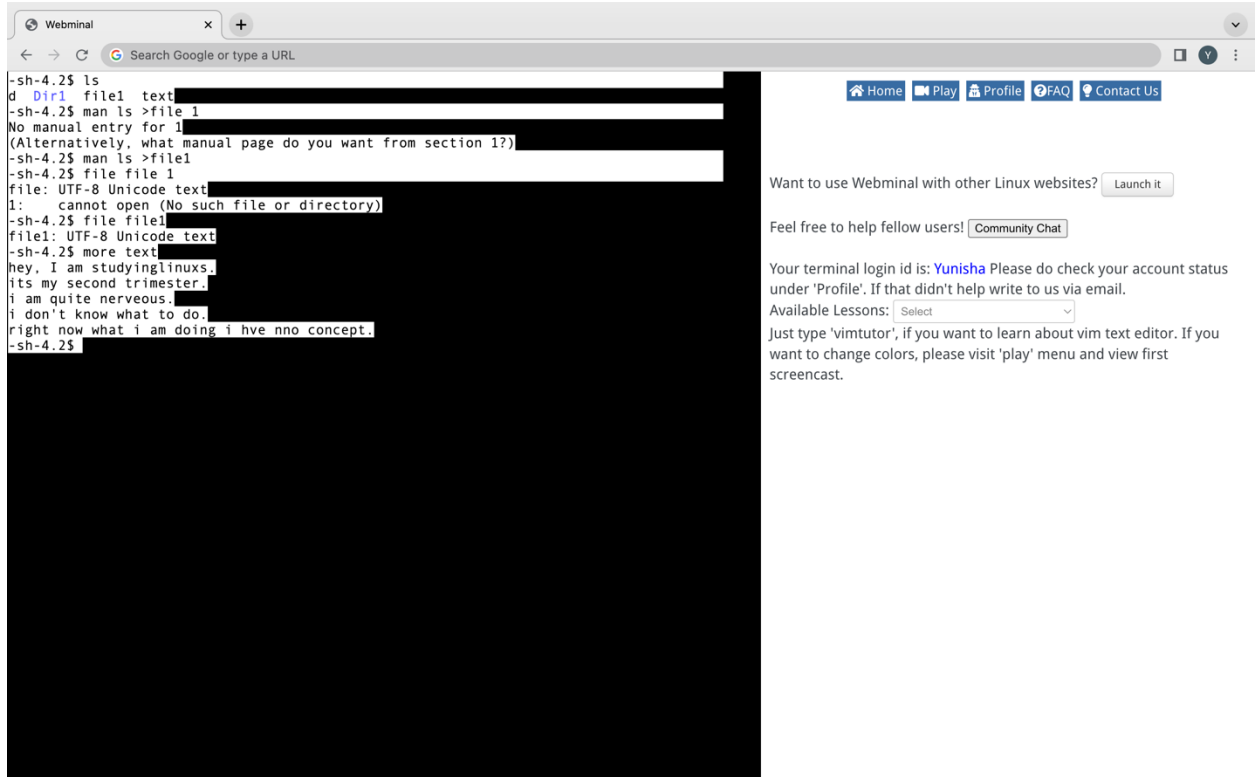
Feel free to help fellow users! [Community Chat](#)

Your terminal login id is: **Yunisha** Please do check your account status under 'Profile'. If that didn't help write to us via email.

Available Lessons:

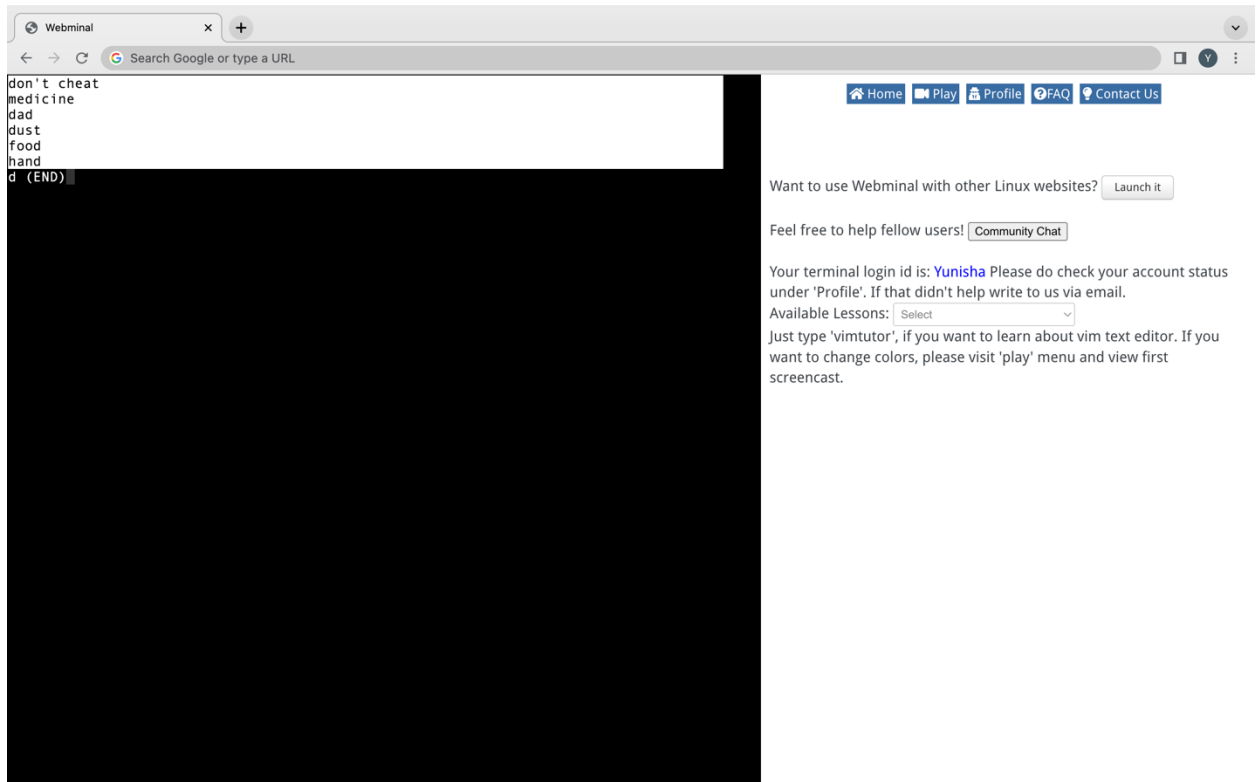
Just type 'vimtutor', if you want to learn about vim text editor. If you want to change colors, please visit 'play' menu and view first screencast.

17) More <any file> -- You have you use an existing file.



It is used to view the text files in the command prompt, displaying one screen at a time if the file is large. It allow UNIX user to scroll up and down.

18) Less <any file> -- you have to use an existing file.



It shows a file's contents one screen at a time. It is useful in handling large files.