

1. Creating and Renaming Files/Directories

Create a directory named test_dir using mkdir.

Inside test_dir, create an empty file called example.txt.

Rename example.txt to renamed_example.txt using mv.

The screenshot shows a terminal window with a dark background and white text. At the top, it says "Jan 2 20:43" and "shaktisingh@shaktisingh-Vostro-3500:~/test_dir". The terminal history is as follows:

```
shaktisingh@shaktisingh-Vostro-3500:~$ mkdir test_dir
shaktisingh@shaktisingh-Vostro-3500:~$ mkdir test_dir
mkdir: cannot create directory 'test_dir': File exists
shaktisingh@shaktisingh-Vostro-3500:~$ cd test_dir
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ touch example.txt
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ ls
example.txt
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ mv example.txt renamed_example.txt
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ ls
renamed_example.txt
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$
```

To the right of the terminal, there is a sidebar titled "Linux Basics assignment" with several sections:

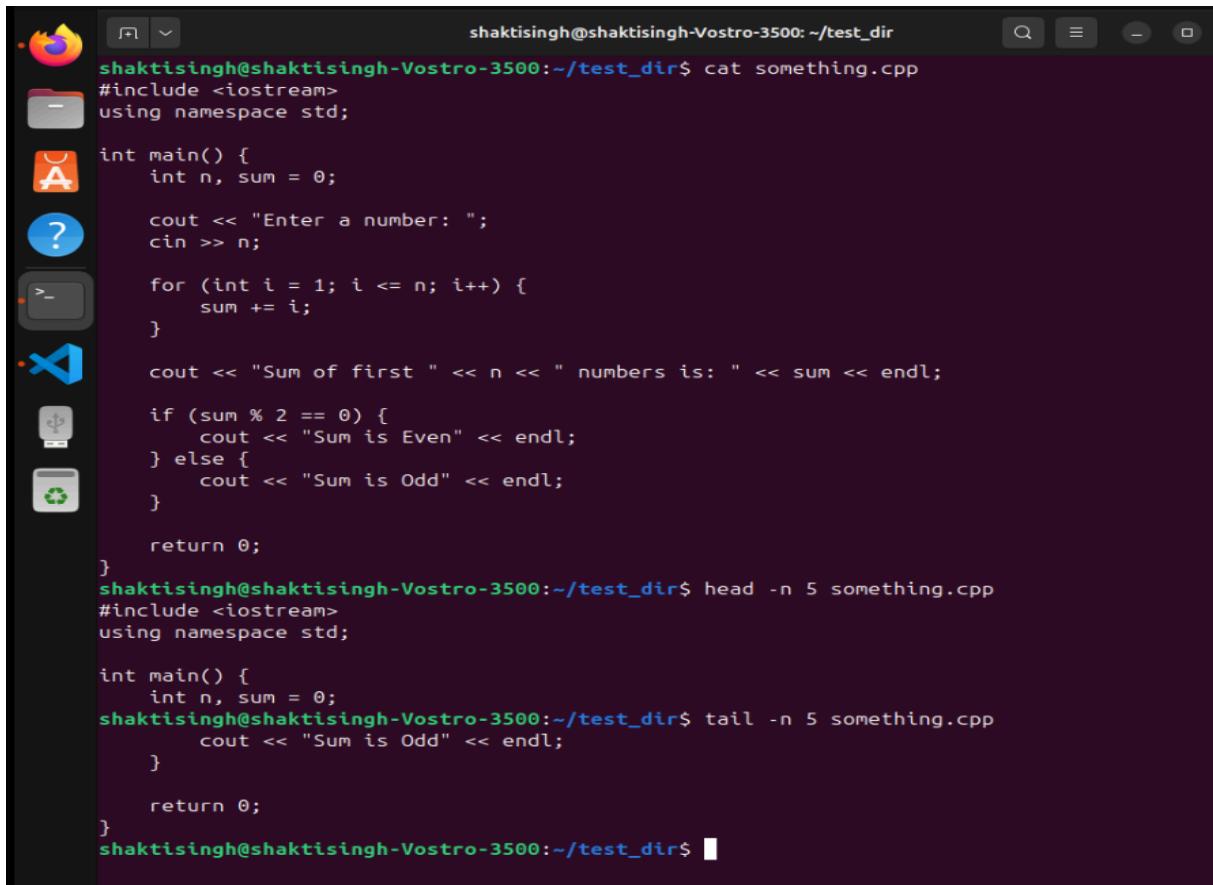
- 1. Creating and Renaming Files/Directories**
 - Create a directory named test_dir using mkdir.
 - Inside test_dir, create an empty file called example.txt.
 - Rename example.txt to renamed_example.txt using mv.
- 2. Viewing File Contents**
 - Use cat to display the contents of /etc/passwd.
 - Display only the first 5 lines of /etc/passwd using head.
 - Display only the last 5 lines of /etc/passwd using tail.
- 3. Searching for Patterns**
 - Use grep to find all lines containing the word "root" in /etc/passwd.
- 4. Zipping and Unzipping**
 - Compress the test_dir directory into a file named test_dir.zip using zip.
 - Unzip test_dir.zip into a new directory named unzipped_dir.
- 5. Downloading Files**
 - Use wget to download a file from a URL (e.g., <https://www.gnu.org/software/tar/>)

2. Viewing File Contents

Use cat to display the contents of /etc/passwd.

Display only the first 5 lines of /etc/passwd using head.

Display only the last 5 lines of /etc/passwd using tail.



A screenshot of a Linux desktop environment, likely Ubuntu, showing a terminal window. The terminal window has a dark background and light-colored text. It displays the following code and its execution:

```
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ cat something.cpp
#include <iostream>
using namespace std;

int main() {
    int n, sum = 0;

    cout << "Enter a number: ";
    cin >> n;

    for (int i = 1; i <= n; i++) {
        sum += i;
    }

    cout << "Sum of first " << n << " numbers is: " << sum << endl;

    if (sum % 2 == 0) {
        cout << "Sum is Even" << endl;
    } else {
        cout << "Sum is Odd" << endl;
    }
}

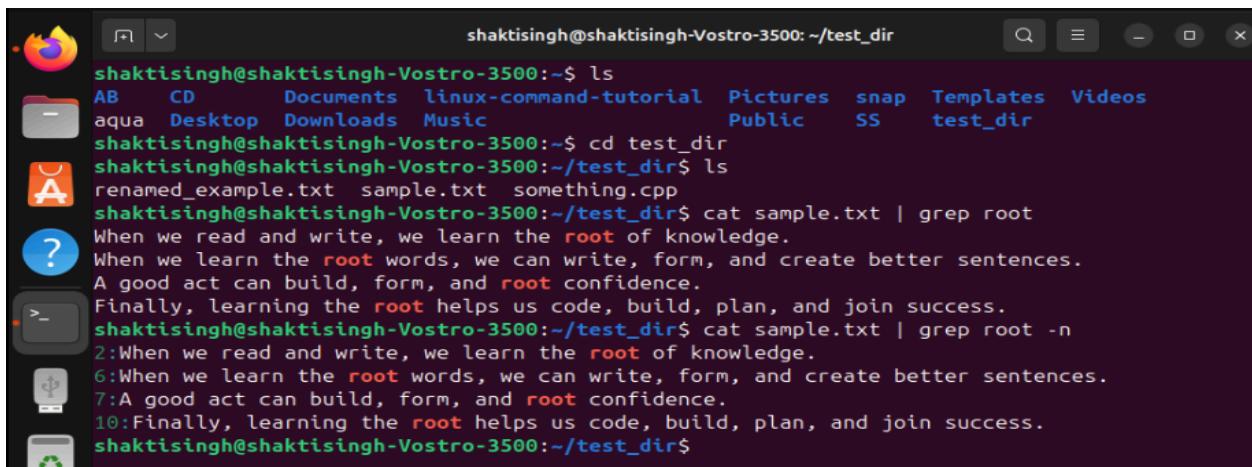
return 0;
}
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ head -n 5 something.cpp
#include <iostream>
using namespace std;

int main() {
    int n, sum = 0;
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ tail -n 5 something.cpp
        cout << "Sum is Odd" << endl;
    }

    return 0;
}
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$
```

3. Searching for Patterns

Use grep to find all lines containing the word "root" in /etc/passwd.



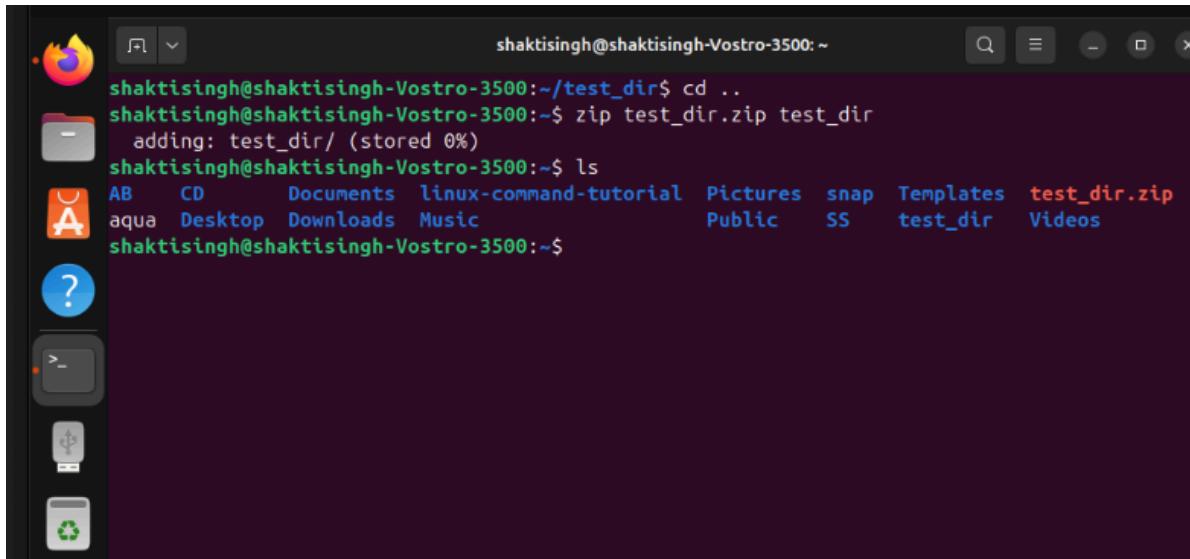
A screenshot of a Linux desktop environment, likely Ubuntu, showing a terminal window. The terminal window has a dark background and light-colored text. It displays the following command and its output:

```
shaktisingh@shaktisingh-Vostro-3500:~$ ls
AB      CD      Documents  linux-command-tutorial  Pictures  snap  Templates  Videos
aqua   Desktop  Downloads  Music                  Public    SS    test_dir
shaktisingh@shaktisingh-Vostro-3500:~$ cd test_dir
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ ls
renamed_example.txt  sample.txt  something.cpp
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ cat sample.txt | grep root
When we read and write, we learn the root of knowledge.
When we learn the root words, we can write, form, and create better sentences.
A good act can build, form, and root confidence.
Finally, learning the root helps us code, build, plan, and join success.
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ cat sample.txt | grep root -n
2:When we read and write, we learn the root of knowledge.
6:When we learn the root words, we can write, form, and create better sentences.
7:A good act can build, form, and root confidence.
10:Finally, learning the root helps us code, build, plan, and join success.
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$
```

4. Zipping and Unzipping

Compress the test_dir directory into a file named test_dir.zip using zip.

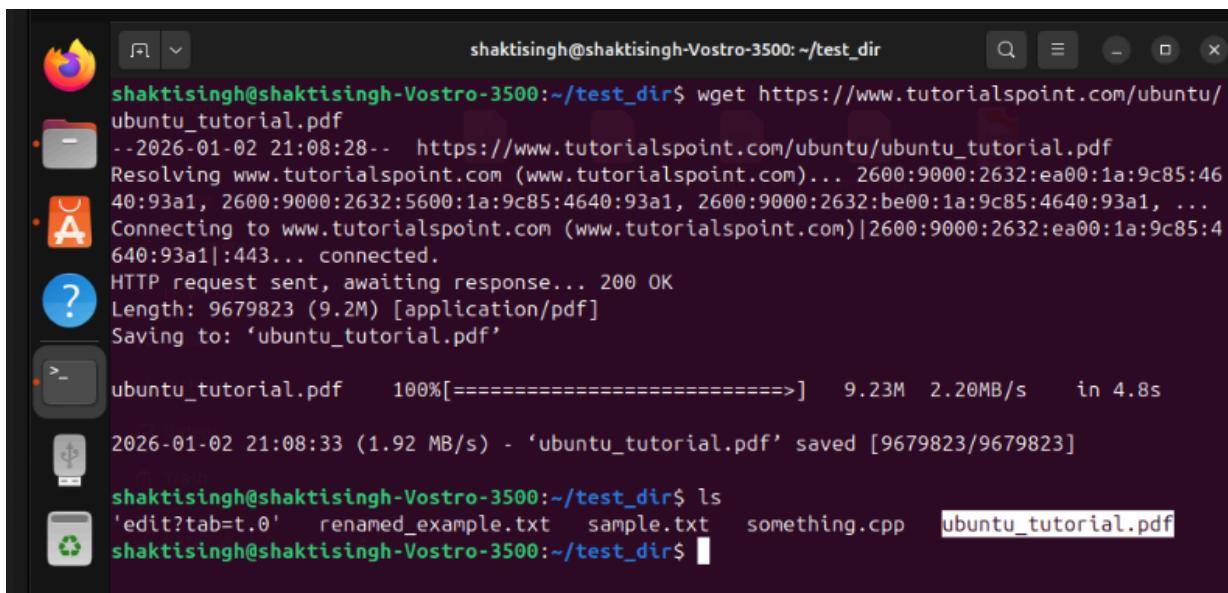
Unzip test_dir.zip into a new directory named unzipped_dir.



```
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ cd ..
shaktisingh@shaktisingh-Vostro-3500:~$ zip test_dir.zip test_dir
  adding: test_dir/ (stored 0%)
shaktisingh@shaktisingh-Vostro-3500:~$ ls
AB  CD  Documents  linux-command-tutorial  Pictures  snap  Templates  test_dir.zip
aqua  Desktop  Downloads  Music  Public  SS  test_dir  Videos
shaktisingh@shaktisingh-Vostro-3500:~$
```

5. Downloading Files

Use wget to download a file from a URL (e.g., <https://example.com/sample.txt>).



```
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ wget https://www.tutorialspoint.com/ubuntu/ubuntuTutorial.pdf
--2026-01-02 21:08:28-- https://www.tutorialspoint.com/ubuntu/ubuntuTutorial.pdf
Resolving www.tutorialspoint.com (www.tutorialspoint.com)... 2600:9000:2632:ea00:1a:9c85:4640:93a1, 2600:9000:2632:5600:1a:9c85:4640:93a1, 2600:9000:2632:be00:1a:9c85:4640:93a1, ...
Connecting to www.tutorialspoint.com (www.tutorialspoint.com)|2600:9000:2632:ea00:1a:9c85:4640:93a1|:443...
HTTP request sent, awaiting response... 200 OK
Length: 9679823 (9.2M) [application/pdf]
Saving to: 'ubuntuTutorial.pdf'

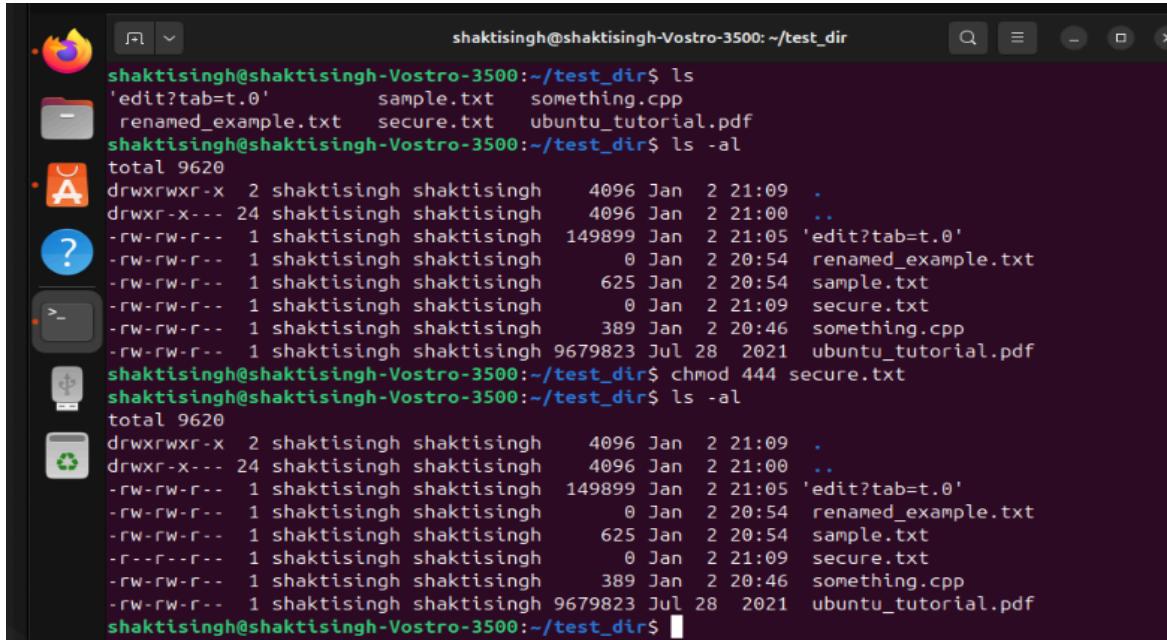
ubuntuTutorial.pdf    100%[=====]  9.23M  2.20MB/s   in 4.8s

2026-01-02 21:08:33 (1.92 MB/s) - 'ubuntuTutorial.pdf' saved [9679823/9679823]

shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ ls
'edit?tab=t.0'  renamed_example.txt  sample.txt  something.cpp  ubuntuTutorial.pdf
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$
```

6. Changing Permissions

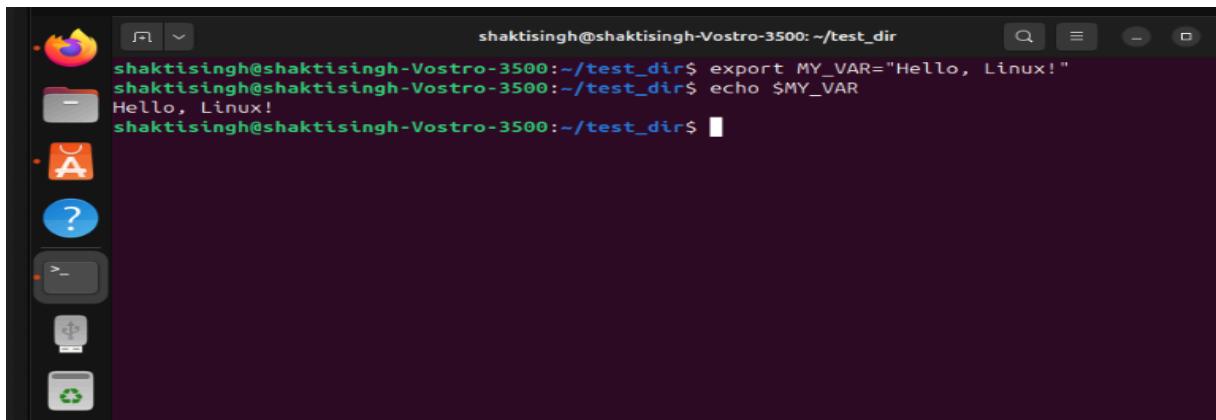
Create a file named secure.txt and change its permissions to read-only for everyone using chmod.



```
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ ls
'edit?tab=t.0'      sample.txt    something.cpp
renamed_example.txt  secure.txt   ubuntu_tutorial.pdf
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ ls -al
total 9620
drwxrwxr-x  2 shaktisingh shaktisingh  4096 Jan  2 21:09 .
drwxr-x--- 24 shaktisingh shaktisingh  4096 Jan  2 21:00 ..
-rw-rw-r--  1 shaktisingh shaktisingh 149899 Jan  2 21:05 'edit?tab=t.0'
-rw-rw-r--  1 shaktisingh shaktisingh     0 Jan  2 20:54 renamed_example.txt
-rw-rw-r--  1 shaktisingh shaktisingh   625 Jan  2 20:54 sample.txt
-rw-rw-r--  1 shaktisingh shaktisingh     0 Jan  2 21:09 secure.txt
-rw-rw-r--  1 shaktisingh shaktisingh   389 Jan  2 20:46 something.cpp
-rw-rw-r--  1 shaktisingh shaktisingh 9679823 Jul 28 2021 ubuntu_tutorial.pdf
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ chmod 444 secure.txt
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ ls -al
total 9620
drwxrwxr-x  2 shaktisingh shaktisingh  4096 Jan  2 21:09 .
drwxr-x--- 24 shaktisingh shaktisingh  4096 Jan  2 21:00 ..
-rw-rw-r--  1 shaktisingh shaktisingh 149899 Jan  2 21:05 'edit?tab=t.0'
-rw-rw-r--  1 shaktisingh shaktisingh     0 Jan  2 20:54 renamed_example.txt
-rw-rw-r--  1 shaktisingh shaktisingh   625 Jan  2 20:54 sample.txt
-r--r--r--  1 shaktisingh shaktisingh     0 Jan  2 21:09 secure.txt
-rw-rw-r--  1 shaktisingh shaktisingh   389 Jan  2 20:46 something.cpp
-rw-rw-r--  1 shaktisingh shaktisingh 9679823 Jul 28 2021 ubuntu_tutorial.pdf
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$
```

7. Working with Environment Variables

Use export to set a new environment variable called MY_VAR with the value "Hello, Linux!"



```
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ export MY_VAR="Hello, Linux!"
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$ echo $MY_VAR
Hello, Linux!
shaktisingh@shaktisingh-Vostro-3500:~/test_dir$
```