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A Mini Project Report

on

File Handling

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CERTIFICATE

This is to certify that, Nikhil Potale(B329), Prashant Walunj(B350),Aditya Raj(B351).

of class TYBTECH; have successfully completed their mini project work on “File Handling’’ at MIT ACADEMY OF ENGINEERING in the partial fulfilment of the Graduate Degree course in TYBTECH at the department of COMPUTER ENGINEERING, in the academic Year 2018-2019 Semester – I (Cycle-1).

Mrs. Kavitha S
And
Mr. Diptee Chikmurge.
Guide

Prof. Shitalkumar Jain
Head of Department
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ABSTRACT

A file handling system which allows the user to define a file structure according to his own needs is described. The operations on the file include the ability Create, Search, Rename, append new entries, modify them as well as delete unwanted ones and list the entries in a sorted order. In order to meet this the end of file structure was used and appropriate functions were designed and implemented. Included all types of system calls are used. The whole project was tested an its performace evaluated.

Acknowledgements

File Hnadling is the project we got for the first semester mini project in the third year of our engineering studies. I think this a very great opportunity to showcase our knowledge in terms of practical knowledge

I would like to show a very great gratitude towards our project guide i.e. Mrs. Diptee Chickmurge Mam and Mrs. Kavitha Mam. They both encouraged and helped us in our very first project. Diptee Mam provided us the backend information and the structure part of our project and helped us with the front end of the project.

Also, I would like to thank our HOD Sir Mr. Shitalkumar Jain for being a very good supporter and inspiration to lead us towards our goal. He provided us different means to collect the information about various facts that are correlated with our project. The guidance helped us to complete the project in time.

At the academics level I would also like to thank our Principal Sir and the whole management team which is working in our campus

Finally, I would like to give a special gratitude to our team, Nikhil, Prashant, Aditya. They are like a small family to me.

OBJECTIVES

- To provide a detailed description of File Handling.
- To discuss how to Create, Delete, rename, search, change permission, change size, Adding user etc.
- To discuss the various types of System Calls And Shell commands are used for various tasks.
- To Check the current status of running process of the processor of file.

OUTCOMES

We are going to implement the project File Handling. In this by running it we can be able to do various file handling tasks.

Having read this section you should be able to:

1. open a file for reading or writing
2. read/write the contents of a file
3. close the file
4. Create Directory
5. Rename file
6. Search file
7. Changing file permissions
8. Showing file size
9. Adding user
10. Showing uptime
11. Displaying process in current shell

1.

INTRODUCTION:

In computing, a file system or filesystem controls how data is stored and retrieved. Without a file system, information placed in a storage medium would be one large body of data with no way to tell where one piece of information stops and the next begins. By separating the data into pieces and giving each piece a name, the information is easily isolated and identified. Taking its name from the way paper-based information systems are named, each group of data is called a "file". The structure and logic rules used to manage the groups of information and their names is called a "file system".

There are many different kinds of file systems. Each one has different structure and logic, properties of speed, flexibility, security, size and more. Some file systems have been designed to be used for specific applications. For example, the ISO 9660 file system is designed specifically for optical discs.

The project is developed using ShellScript. The main purpose of developing the Project was to ease the job of the user to perform daily activities and update it. The project aide help to user at tip of their finger. The main feature are Creating, Deleting, Renaming, Displaying, rename, search, changing permissions, create directory, showing file size.

Implementation

Creating files

Every once in a while you will run into a situation where you need to create an empty file. Sometimes applications expect a log file to be present before they can write to it. In these situations, you can use the touch command to easily create an empty file:

```
$ touch test1
$ ls -il test1
1954793 -rw-r--r-- 1 rich rich 0 Sep 1 09:35 test1
$
```

The touch command creates the new file you specify, and assigns your username as the file owner. Since I used the -il parameters for the ls command, the first entry in the listing shows the inode number assigned to the file. Every file on the Linux system has a unique inode number.

```
echo " Enter the filename which u want to b create: "
   read filename
   if test -f $filename
   then
   echo " File is already existed "
   else
   if touch $filename
   then
   echo " File is created\n "
   fi
```

Renaming files

In the Linux world, renaming files is called moving. The mv command is available to move both files and directories to another location:

```
$ mv test2 test6
```

```
echo " Enter the filename which u want to b rename: "
   read file11
   echo " Enter the name of file:\n"
```

```
read file22
if test -f $file11
then
mv $file11 $file22
echo " File is successfully renamed\n "
else
echo " Operation unsuccessful \n"
fi
```

Deleting files

Most likely at some point in your Linux career you'll want to be able to delete existing files. Whether it's to clean up a filesystem or to remove a software package, there's always opportunities to delete files.

In the Linux world, deleting is called removing. The command to remove files in the bash shell is rm. The basic form of the rm command is pretty simple:

```
$ rm -i  test2
 rm:  remove `test2'? y
```

```
echo " Enter the filename which u want to b delete: "
   read filename1
   if test -f $filename1
   then
   rm  $filename1
   echo " File is successfully deleted \n"
   else
   echo " Operation unsuccessful\n "
   fi
```

Creating directories

There's not much to creating a new directory in Linux, just use the mkdir command:

$ mkdir dir3

```
echo " Enter the directory name which u want to b create: "
  read  directoryname
  if test [ -d $directoryname ]
  then
  echo " Directory is already existed "
  else
  if mkdir $directoryname
  then
  echo " Directory is created "
  fi
  fi
```

Copying file

Copying files and directories from one location in the filesystem to another is a common practice for system administrators. The cp command provides this feature.

In it's most basic form, the cp command uses two parameters: the source object and the destination object: cp source destination

When both the source and destination parameters are filenames, the cp command copies the source file to a new file with the filename specified as the destination. The new file acts like a brand new file, with an updated file creation and last modified times:

$ cp test1 test2

```
echo " Enter the filename which u want to b copy: "
  read file1
  echo " The destination file is: "
  read file2
  if test -f $file1
  then
  cp $file1 $file2
  echo " File is successfully copied\n "
  else
  echo " Operation unsuccessful \n"
```

listing file

The most basic feature of the shell is the ability to see what files are available on the system. The list command (ls) is the tool that helps do that. This section describes the ls command, and all of the options available to format the information it can provide.

Deleting directories

Removing directories can be tricky, but there's a reason for that. There are lots of opportunity for bad things to happen when you start deleting directories. The bash shell tries to protect us from accidental catastrophes as much as possible. The basic command for removing a directory

is rmdir:

```
$ rmdir dir3
$ rmdir dir1
```

PLANNING

Understanding the problem definition

Gathering information about required software resources

Gathering information about required hardware resources

Preparing preliminary design of overall workflow of project

SOFTWARE AND HARDWARE USED

Software :

- Linux Operating system is used
- Vs code is used
- Bash shell is used

Language:

- ShellScrit is used

Implementation with code

```
#!/bin/bash
#My first script
ch=1
while [ $ch -le 17 ]
do
echo " 1.Create a directory:"
echo " 2.create file:"
echo " 3.copy: "
echo " 4.rename"
echo " 5.delete"
echo " 7.present working directory:"
echo " 8.search:"
echo " 9.add user:"
echo " 10.delete user"
echo " 11.FAP"
echo " 12.display"
echo " 13.uptime:"
echo " 14.Display process in current shell "
echo " 15.Display all information about all processes "
echo " 16.show the file size:"
echo " 17.thank:"
echo " Enter your choice "
read ch
case $ch in
(1) echo " Enter the directory name which u want to b create: "
   read  directoryname
   if test [ -d $directoryname ]
   then
   echo " Directory is already existed "
   else
   if mkdir $directoryname
   then
```

```
   echo " Directory is created "
   fi
   fi
;;
(2) echo " Enter the filename which u want to b create: "
   read filename
   if test -f $filename
   then
   echo " File is already existed "
   else
   if touch $filename
   then
   echo " File is created\n "
   fi
   fi
;;
(3) echo " Enter the filename which u want to b copy: "
   read file1
   echo " The destination file is: "
   read file2
   if test -f $file1
   then
   cp $file1 $file2
   echo " File is successfully copied\n "
   else
   echo " Operation unsuccessful \n"
   fi
;;
(4) echo " Enter the filename which u want to b rename: "
   read file11
   echo " Enter the name of file:\n"
   read file22
   if test -f $file11
   then
   mv $file11 $file22
   echo " File is successfully renamed\n "
   else
   echo " Operation unsuccessful \n"
```

```
   fi
;;
(5)echo " Enter the filename which u want to b delete: "
   read filename1
   if test -f $filename1
   then
   rm  $filename1
   echo " File is successfully deleted \n"
   else
   echo " Operation unsuccessful\n "
   fi
;;
(7) echo "present working directory:"
   pwd
   echo "\n"
;;
(8) echo "enter the file name to search:"
   read -r a
   if find . -maxdepth 1 -name "$a" -print -quit | grep -q .
   then
   echo "You found the file.\n"
   else
   echo "You haven't found the file.\n"
   fi
;;
(9) echo " Add user "
   read username
   useradd $username
   echo " User added successfully.\n "
;;
(10)echo " Delete user "
   read username
   userdel $username
   echo " User deleted successfully.\n "
;;
(11)echo " Enter the file name "
   read filename6
   if test -f $filename6
```

```
  then
  echo " Enter the permission for owner."
  read u
  echo " Enter the permission for group. "
  read g
  echo " Enter the permission for other. \n"
  read o
  chmod $u$g$o $filename
  else
  echo " File does not existed.\n "
  fi
;;
(12)echo "\n Display the File access permissions "
  read filename4
  ls -l $filename
;;
(13)echo "the output has got for parts:currenttime,uptime,number of users and average load
mentioned earlier"
  echo "\n"
  uptime
;;
(14)echo " Display process in current shell "
  ps -l
;;
(15)echo " Display all information about all processes "
  ps -ef
;;
(16)echo " display the file size:"
  read file007
  if test -f $file007
  then
  du -h $file007
  echo "display the size:"
  else
  echo "file not found:"
  fi
;;
(17)echo "thanks:"
```

```
   banner thanks
;;

esac
done
exit 0
```

RESULTS

```
aditya@aditya-HP-Pavilion-15-Notebook-PC:~$ cd Desktop/
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop$ cd
operatingsystemlab/
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop/operatingsystemlab$
ls -l
total 180
-rw-rw-r-- 1 aditya aditya     13 Oct  4 09:28 777
drwxrwxr-x 2 aditya aditya   4096 Oct  4 10:27 lll
drwxrwxr-x 2 aditya aditya   4096 Oct  2 20:52 mini
-rw-rw-r-- 1 aditya aditya 150828 Oct  4 09:51 mini.sh
drwxrwxr-x 2 aditya aditya   4096 Oct  4 09:27 mit
-rw-rw-r-- 1 aditya aditya     13 Oct  4 09:28 mit123
-rw-rw-r-- 1 aditya aditya   3065 Oct  4 09:53 operating.sh
-rw-rw-r-- 1 aditya aditya   3246 Oct  4 10:29 project.sh
drwxrwxr-x 2 aditya aditya   4096 Oct  4 10:28 riy
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop/operatingsystemlab$
sh project.sh
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
1
```

```
 Enter the directory name which u want to b create:
mitaoe
project.sh: 27: test: [: unexpected operator
 Directory is created
project.sh: 4: [: -le: unexpected operator
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop/operatingsystemlab$
sh project.sh
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
2
 Enter the filename which u want to b create:
mitaoealandi
 File is created

 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
```

```
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
3
 Enter the filename which u want to b copy:
mitaoe
 The destination file is:
mitaoealandi
 Operation unsuccessful

 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
1
 Enter the directory name which u want to b create:
mit
project.sh: 27: test: [: unexpected operator
 Directory is created
project.sh: 4: [: -le: unexpected operator
```

```
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop/operatingsystemlab$
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop/operatingsystemlab$
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop/operatingsystemlab$
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop/operatingsystemlab$
sh project.sh
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
1
 Enter the directory name which u want to b create:
mit
project.sh: 27: test: [: unexpected operator
 Directory is created
project.sh: 4: [: -le: unexpected operator
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop/operatingsystemlab$ 2
2: command not found
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop/operatingsystemlab$
sh project.sh
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
```

```
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
2
 Enter the filename which u want to b create:
mitaoe
 File is created

 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
2
 Enter the filename which u want to b create:
mitaoe.sh
 File is created
```

```
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
3
 Enter the filename which u want to b copy:
mitaoe.sh
 The destination file is:
mitaoe1.sh
 File is successfully copied

 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
```

```
 16.show the file size:
 17.thank:
 Enter your choice
4
 Enter the filename which u want to b rename:
mitaoe.sh
 Enter the name of file:

mitaoe2.sh
 File is successfully renamed

 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
5
 Enter the filename which u want to b delete:
mitaoe2.sh
 File is successfully deleted

 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
```

```
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
7
present working directory:
/home/aditya/Desktop/operatingsystemlab


 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
5
 Enter the filename which u want to b delete:
mitaoe1.sh
 File is successfully deleted
```

```
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
9
 Add user
aditya396
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
 User added successfully.

 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
```

```
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
9
 Add user
aditya123
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
 User added successfully.

 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
10
 Delete user
aditya123
userdel: user 'aditya123' does not exist
 User deleted successfully.

 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
```

```
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
11
 Enter the file name
7
 File does not existed.

 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
11
 Enter the file name
mini.sh
```

```
 Enter the permission for owner.
7
 Enter the permission for group.
4
 Enter the permission for other.

4
chmod: cannot access 'mitaoe.sh': No such file or directory
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
12

 Display the File access permissions
mini.sh
ls: cannot access 'mitaoe.sh': No such file or directory
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
```

```
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
12

 Display the File access permissions
mini.sh
ls: cannot access 'mitaoe.sh': No such file or directory
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
12

 Display the File access permissions
project.sh
ls: cannot access 'mitaoe.sh': No such file or directory
 1.Create a directory:
 2.create file:
```

```
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
13
the output has got for parts:currenttime,uptime,number of users and
average load mentioned earlier


 18:19:11 up 11 min,  1 user,  load average: 0.02, 0.18, 0.21
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
```

```
14
 Display process in current shell
F S   UID   PID  PPID  C PRI  NI ADDR SZ WCHAN  TTY          TIME CMD
0 S  1000  1878  1859  0  80   0 -  5674 wait   pts/8    00:00:00 bash
0 S  1000  2113  1878  0  80   0 -  1126 wait   pts/8    00:00:00 sh
0 R  1000  2209  2113  0  80   0 -  7229 -      pts/8    00:00:00 ps
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
15
 Display all information about all processes
UID        PID  PPID  C STIME TTY          TIME CMD
root         1     0  0 18:07 ?        00:00:01 /sbin/init splash
root         2     0  0 18:07 ?        00:00:00 [kthreadd]
root         3     2  0 18:07 ?        00:00:00 [ksoftirqd/0]
root         4     2  0 18:07 ?        00:00:00 [kworker/0:0]
root         5     2  0 18:07 ?        00:00:00 [kworker/0:0H]
root         6     2  0 18:07 ?        00:00:00 [kworker/u16:0]
root         7     2  0 18:07 ?        00:00:00 [rcu_sched]
root         8     2  0 18:07 ?        00:00:00 [rcu_bh]
root         9     2  0 18:07 ?        00:00:00 [migration/0]
root        10     2  0 18:07 ?        00:00:00 [watchdog/0]
root        11     2  0 18:07 ?        00:00:00 [watchdog/1]
root        12     2  0 18:07 ?        00:00:00 [migration/1]
```

```
root        13     2  0 18:07 ?        00:00:00 [ksoftirqd/1]
root        14     2  0 18:07 ?        00:00:00 [kworker/1:0]
root        15     2  0 18:07 ?        00:00:00 [kworker/1:0H]
root        16     2  0 18:07 ?        00:00:00 [watchdog/2]
root        17     2  0 18:07 ?        00:00:00 [migration/2]
root        18     2  0 18:07 ?        00:00:00 [ksoftirqd/2]
root        20     2  0 18:07 ?        00:00:00 [kworker/2:0H]
root        21     2  0 18:07 ?        00:00:00 [watchdog/3]
root        22     2  0 18:07 ?        00:00:00 [migration/3]
root        23     2  0 18:07 ?        00:00:00 [ksoftirqd/3]
root        25     2  0 18:07 ?        00:00:00 [kworker/3:0H]
root        26     2  0 18:07 ?        00:00:00 [kdevtmpfs]
root        27     2  0 18:07 ?        00:00:00 [netns]
root        28     2  0 18:07 ?        00:00:00 [perf]
root        29     2  0 18:07 ?        00:00:00 [khungtaskd]
root        30     2  0 18:07 ?        00:00:00 [writeback]
root        31     2  0 18:07 ?        00:00:00 [ksmd]
root        32     2  0 18:07 ?        00:00:00 [khugepaged]
root        33     2  0 18:07 ?        00:00:00 [crypto]
root        34     2  0 18:07 ?        00:00:00 [kintegrityd]
root        35     2  0 18:07 ?        00:00:00 [bioset]
root        36     2  0 18:07 ?        00:00:00 [kblockd]
root        38     2  0 18:07 ?        00:00:00 [ata_sff]
root        39     2  0 18:07 ?        00:00:00 [md]
root        40     2  0 18:07 ?        00:00:00 [devfreq_wq]
root        41     2  0 18:07 ?        00:00:00 [kworker/u16:1]
root        42     2  0 18:07 ?        00:00:00 [kworker/2:1]
root        44     2  0 18:07 ?        00:00:00 [kswapd0]
root        45     2  0 18:07 ?        00:00:00 [vmstat]
root        46     2  0 18:07 ?        00:00:00 [fsnotify_mark]
root        47     2  0 18:07 ?        00:00:00 [ecryptfs-kthrea]
root        63     2  0 18:07 ?        00:00:00 [kthrotld]
root        65     2  0 18:07 ?        00:00:00 [kworker/3:1]
root        66     2  0 18:07 ?        00:00:00 [acpi_thermal_pm]
root        67     2  0 18:07 ?        00:00:00 [bioset]
root        68     2  0 18:07 ?        00:00:00 [bioset]
root        69     2  0 18:07 ?        00:00:00 [bioset]
root        70     2  0 18:07 ?        00:00:00 [bioset]
```

```
root        71     2  0 18:07 ?        00:00:00 [bioset]
root        72     2  0 18:07 ?        00:00:00 [bioset]
root        73     2  0 18:07 ?        00:00:00 [bioset]
root        74     2  0 18:07 ?        00:00:00 [bioset]
root        79     2  0 18:07 ?        00:00:00 [ipv6_addrconf]
root        92     2  0 18:07 ?        00:00:00 [deferwq]
root        93     2  0 18:07 ?        00:00:00 [charger_manager]
root       141     2  0 18:07 ?        00:00:00 [kpsmoused]
root       142     2  0 18:07 ?        00:00:00 [kworker/2:2]
root       143     2  0 18:07 ?        00:00:00 [scsi_eh_0]
root       144     2  0 18:07 ?        00:00:00 [scsi_tmf_0]
root       145     2  0 18:07 ?        00:00:00 [scsi_eh_1]
root       146     2  0 18:07 ?        00:00:00 [scsi_tmf_1]
root       147     2  0 18:07 ?        00:00:00 [scsi_eh_2]
root       148     2  0 18:07 ?        00:00:00 [scsi_tmf_2]
root       149     2  0 18:07 ?        00:00:00 [scsi_eh_3]
root       150     2  0 18:07 ?        00:00:00 [scsi_tmf_3]
root       153     2  0 18:07 ?        00:00:00 [kworker/0:2]
root       155     2  0 18:07 ?        00:00:00 [kworker/u16:7]
root       157     2  0 18:07 ?        00:00:00 [ttm_swap]
root       159     2  0 18:07 ?        00:00:00 [bioset]
root       160     2  0 18:07 ?        00:00:00 [bioset]
root       163     2  0 18:07 ?        00:00:00 [kworker/0:1H]
root       185     2  0 18:07 ?        00:00:00 [kworker/1:1H]
root       187     2  0 18:07 ?        00:00:00 [jbd2/sda2-8]
root       188     2  0 18:07 ?        00:00:00 [ext4-rsv-conver]
root       215     1  0 18:07 ?        00:00:00 /lib/systemd/systemd-
journald
root       221     2  0 18:07 ?        00:00:00 [kauditd]
root       247     2  0 18:07 ?        00:00:00 [kworker/3:2]
root       249     2  0 18:07 ?        00:00:00 [kworker/2:1H]
root       261     1  0 18:07 ?        00:00:00 /lib/systemd/systemd-
udevd
root       339     2  0 18:07 ?        00:00:00 [kworker/3:1H]
root       386     2  0 18:07 ?        00:00:00 [irq/45-mei_me]
root       397     2  0 18:07 ?        00:00:00 [cfg80211]
systemd+   642     1  0 18:07 ?        00:00:00 /lib/systemd/systemd-
timesyncd
```

```
syslog     786     1  0 18:07 ?        00:00:00 /usr/sbin/rsyslogd -n
root       798     1  0 18:07 ?        00:00:00 /usr/sbin/cron -f
root       804     1  0 18:07 ?        00:00:00 /usr/sbin/thermald --no-
daemon -
avahi      809     1  0 18:07 ?        00:00:00 avahi-daemon: running
[aditya-HP
message+   814     1  0 18:07 ?        00:00:00 /usr/bin/dbus-daemon --
system --
avahi      846   809  0 18:07 ?        00:00:00 avahi-daemon: chroot
helper
root       847     1  0 18:07 ?        00:00:00
/usr/lib/accountsservice/account
root       850     1  0 18:07 ?        00:00:00 /usr/sbin/acpid
root       853     1  0 18:07 ?        00:00:00 /usr/sbin/ModemManager
root       854     1  0 18:07 ?        00:00:00 /usr/sbin/NetworkManager
--no-da
root       857     1  0 18:07 ?        00:00:00 /lib/systemd/systemd-
logind
root       858     1  0 18:07 ?        00:00:00 /usr/sbin/cupsd -l
root       859     1  0 18:07 ?        00:00:00 /usr/sbin/cups-browsed
root       864     1  0 18:07 ?        00:00:00 /usr/lib/snapd/snapd
root       909     1  0 18:07 ?        00:00:00 /usr/sbin/irqbalance --
pid=/var/
root       918     1  0 18:07 ?        00:00:00 /usr/sbin/lightdm
root       934     1  0 18:07 ?        00:00:00 /usr/lib/policykit-
1/polkitd --n
root       940   918  1 18:07 tty7     00:00:07 /usr/lib/xorg/Xorg -core
:0 -sea
lp         952   858  0 18:07 ?        00:00:00
/usr/lib/cups/notifier/dbus dbus
lp         953   858  0 18:07 ?        00:00:00
/usr/lib/cups/notifier/dbus dbus
mysql      969     1  0 18:07 ?        00:00:00 /usr/sbin/mysqld
root       994     1  0 18:07 ?        00:00:00 /sbin/wpa_supplicant -u
-s -O /r
whoopsie  1083     1  0 18:08 ?        00:00:00 /usr/bin/whoopsie -f
root      1089     1  0 18:08 tty1     00:00:00 /sbin/agetty --noclear
tty1 linu
```

```
root      1130   918  0 18:08 ?        00:00:00 lightdm --session-child
12 19
rtkit     1195     1  0 18:08 ?        00:00:00 /usr/lib/rtkit/rtkit-
daemon
root      1206     1  0 18:08 ?        00:00:00 /usr/lib/upower/upowerd
colord    1238     1  0 18:08 ?        00:00:00 /usr/lib/colord/colord
aditya    1262     1  0 18:08 ?        00:00:00 /lib/systemd/systemd --
user
aditya    1263  1262  0 18:08 ?        00:00:00 (sd-pam)
aditya    1269     1  0 18:08 ?        00:00:00 /usr/bin/gnome-keyring-
daemon --
aditya    1271  1130  0 18:08 ?        00:00:00 /sbin/upstart --user
aditya    1360  1271  0 18:08 ?        00:00:00 upstart-udev-bridge --
daemon --u
aditya    1361  1271  0 18:08 ?        00:00:00 dbus-daemon --fork --
session --a
aditya    1373  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/hud/wi
aditya    1397  1271  0 18:08 ?        00:00:02 /usr/bin/ibus-daemon --
daemonize
aditya    1407  1271  0 18:08 ?        00:00:00 upstart-dbus-bridge --
daemon --s
aditya    1408  1271  0 18:08 ?        00:00:00 upstart-dbus-bridge --
daemon --s
aditya    1414  1271  0 18:08 ?        00:00:00 upstart-file-bridge --
daemon --u
aditya    1425  1271  0 18:08 ?        00:00:00 /usr/lib/gvfs/gvfsd
aditya    1430  1271  0 18:08 ?        00:00:00 /usr/lib/gvfs/gvfsd-fuse
/run/us
aditya    1439  1397  0 18:08 ?        00:00:00 /usr/lib/ibus/ibus-dconf
aditya    1440  1397  0 18:08 ?        00:00:00 /usr/lib/ibus/ibus-ui-
gtk3
aditya    1446  1271  0 18:08 ?        00:00:00 /usr/lib/ibus/ibus-x11 -
-kill-da
aditya    1457  1397  0 18:08 ?        00:00:00 /usr/lib/ibus/ibus-
engine-simple
aditya    1466  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/bamf/b
```

```
aditya    1471  1271  0 18:08 ?        00:00:00 gpg-agent --homedir
/home/aditya
aditya    1481  1271  0 18:08 ?        00:00:01 /usr/lib/x86_64-linux-
gnu/hud/hu
aditya    1483  1271  0 18:08 ?        00:00:00 /usr/lib/unity-settings-
daemon/u
aditya    1493  1271  0 18:08 ?        00:00:00 /usr/lib/at-spi2-
core/at-spi-bus
aditya    1494  1271  0 18:08 ?        00:00:00 /usr/lib/gnome-
session/gnome-ses
aditya    1502  1493  0 18:08 ?        00:00:00 /usr/bin/dbus-daemon --
config-fi
aditya    1509  1271  0 18:08 ?        00:00:01 /usr/lib/x86_64-linux-
gnu/unity/
aditya    1526  1271  0 18:08 ?        00:00:00 /usr/lib/at-spi2-
core/at-spi2-re
aditya    1530  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/indica
aditya    1531  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/indica
aditya    1532  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/indica
aditya    1533  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/indica
aditya    1542  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/indica
aditya    1544  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/indica
aditya    1546  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/indica
aditya    1547  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/indica
aditya    1578  1271  0 18:08 ?        00:00:00
/usr/lib/evolution/evolution-sou
aditya    1587  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/indica
aditya    1595  1483  0 18:08 ?        00:00:00 syndaemon -i 1.0 -t -K -
R
```

```
aditya    1606  1271  0 18:08 ?        00:00:00 /usr/bin/pulseaudio --
start --lo
aditya    1627  1271  0 18:08 ?        00:00:00 /usr/lib/dconf/dconf-
service
aditya    1659  1494  0 18:08 ?        00:00:00 /usr/bin/gnome-software
--gappli
aditya    1663  1271  1 18:08 ?        00:00:11 compiz
aditya    1664  1494  0 18:08 ?        00:00:00 /usr/lib/unity-settings-
daemon/u
aditya    1665  1494  0 18:08 ?        00:00:00 /usr/lib/policykit-1-
gnome/polki
aditya    1670  1494  0 18:08 ?        00:00:00 nm-applet
aditya    1672  1494  0 18:08 ?        00:00:04 nautilus -n
aditya    1688  1271  0 18:08 ?        00:00:00 /usr/lib/gvfs/gvfs-
udisks2-volum
root      1691     1  0 18:08 ?        00:00:00 /usr/lib/udisks2/udisksd
--no-de
aditya    1705  1271  0 18:08 ?        00:00:00 /usr/lib/gvfs/gvfs-mtp-
volume-mo
aditya    1710  1271  0 18:08 ?        00:00:00 /usr/lib/gvfs/gvfs-afc-
volume-mo
aditya    1716  1271  0 18:08 ?        00:00:00 /usr/lib/gvfs/gvfs-
gphoto2-volum
aditya    1719  1271  0 18:08 ?        00:00:00
/usr/lib/evolution/evolution-cal
aditya    1724  1271  0 18:08 ?        00:00:00 /usr/lib/gvfs/gvfs-goa-
volume-mo
aditya    1734  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/notify
aditya    1751  1271  0 18:08 ?        00:00:00 /usr/lib/gvfs/gvfsd-
trash --spaw
aditya    1773  1271  0 18:08 ?        00:00:00 /usr/lib/gvfs/gvfsd-
metadata
aditya    1785  1719  0 18:08 ?        00:00:00
/usr/lib/evolution/evolution-cal
aditya    1795  1271  0 18:08 ?        00:00:00
/usr/lib/evolution/evolution-add
```

```
aditya    1797  1719  0 18:08 ?        00:00:00
/usr/lib/evolution/evolution-cal
aditya    1822  1795  0 18:08 ?        00:00:00
/usr/lib/evolution/evolution-add
aditya    1857  1494  0 18:08 ?        00:00:00 zeitgeist-datahub
aditya    1859  1271  0 18:08 ?        00:00:02 /usr/lib/gnome-
terminal/gnome-te
aditya    1869  1271  0 18:08 ?        00:00:00 /bin/sh -c
/usr/lib/x86_64-linux
aditya    1873  1869  0 18:08 ?        00:00:00 /usr/bin/zeitgeist-
daemon
aditya    1878  1859  0 18:08 pts/8    00:00:00 bash
aditya    1890  1271  0 18:08 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/zeitge
aditya    1949  1494  0 18:09 ?        00:00:00 update-notifier
aditya    1990  1494  0 18:10 ?        00:00:00 /usr/lib/x86_64-linux-
gnu/deja-d
aditya    2006  1271  0 18:10 ?        00:00:00 /usr/lib/gvfs/gvfsd-
network --sp
aditya    2035  1271  0 18:10 ?        00:00:00 /usr/lib/gvfs/gvfsd-
dnssd --spaw
aditya    2113  1878  0 18:13 pts/8    00:00:00 sh project.sh
root      2117     2  0 18:13 ?        00:00:00 [kworker/1:2]
root      2149     2  0 18:14 ?        00:00:00 [kworker/2:0]
aditya    2212  2113  0 18:19 pts/8    00:00:00 ps -ef
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
```

```
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
16
 display the file size:
mini.sh
148K    mini.sh
display the size:
 1.Create a directory:
 2.create file:
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
17
thanks:

  #####  #    #    ##    #    #  #    #   ####
    #    #    #   #  #   ##   #  #   #   #
    #    ######  #    #  # #  #  ####     ####
    #    #    #  ######  #  # #  #  #         #
    #    #    #  #    #  #   ##  #   #   #    #
    #    #    #  #    #  #    #  #    #   ####

 1.Create a directory:
 2.create file:
```

```
 3.copy:
 4.rename
 5.delete
 7.present working directory:
 8.search:
 9.add user:
 10.delete user
 11.FAP
 12.display
 13.uptime:
 14.Display process in current shell
 15.Display all information about all processes
 16.show the file size:
 17.thank:
 Enter your choice
^Aproject.sh: 4: [: Illegal number:
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop/operatingsystemlab$
^C
aditya@aditya-HP-Pavilion-15-Notebook-PC:~/Desktop/operatingsystemlab$
```

CONCLUSION

We have to concluded So far we have done file handling with GUI program. And one various File Handling tasks without knowing How it works. So that we have designed a program such that we can get to know behind the scenes of File Handling. The solution is to create program in Shell such that it can perform all the File Handling tasks easily and let our user do all File Handling tasks which He/She can do on GUI program.

REFERENCES

Non-POSIX file system for LHCb online event handling
J. Garnier ; N. Neufeld ; S.S. Cherukuwada
2010 17th IEEE-NPSS Real Time Conference

Year: 2010

A novel approach to improve the performance of Hadoop in handling of small files
Parth Gohil ; Bakul Panchal ; J. S. Dhobi
2015 IEEE International Conference on Electrical, Computer and Communication Technologies (ICECCT)

Year: 2015

Design and Implementation of a File Spanning among Multiple OSDs in OASIS File System
Myung-Hoon Cha ; Hong-Yeon Kim ; June Kim ; Myung-Joon Kim
The 9th International Conference on Advanced Communication Technology

Year: 2007 , Volume: 1

Design and Implementation of a Consistent Update Method for Multiple File Replicas in a Distributed File System
Myung-Hoon Cha ; Sang-Min Lee ; Ki-Sung Jin ; Young-Soo Min ; Young-Kyun Kim
2008 10th International Conference on Advanced Communication Technology

Year: 2008 , Volume: 3

Distributed file systems: focus on Andrew File System/Distributed File Service (AFS/DFS)
R. Tobbicke
Proceedings Thirteenth IEEE Symposium on Mass Storage Systems. Toward Distributed Storage and Data Management Systems

Sibling relationship and block allocation table in file system for smart card operating system
Novi Prihatiningrum ; Mahendra Drajat Adhinata ; Ricky Disastra ; Arif Sasongko
2016 International Symposium on Electronics and Smart Devices (ISESD)

Year: 2016