DEPARTMENT OF INFORMATION TECHNOLOGY
Mahatma Education Society's
Pillai College of Engineering
New Panvel
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Unix Mini Project

Title : To implement ls, cp, mv in C or Java

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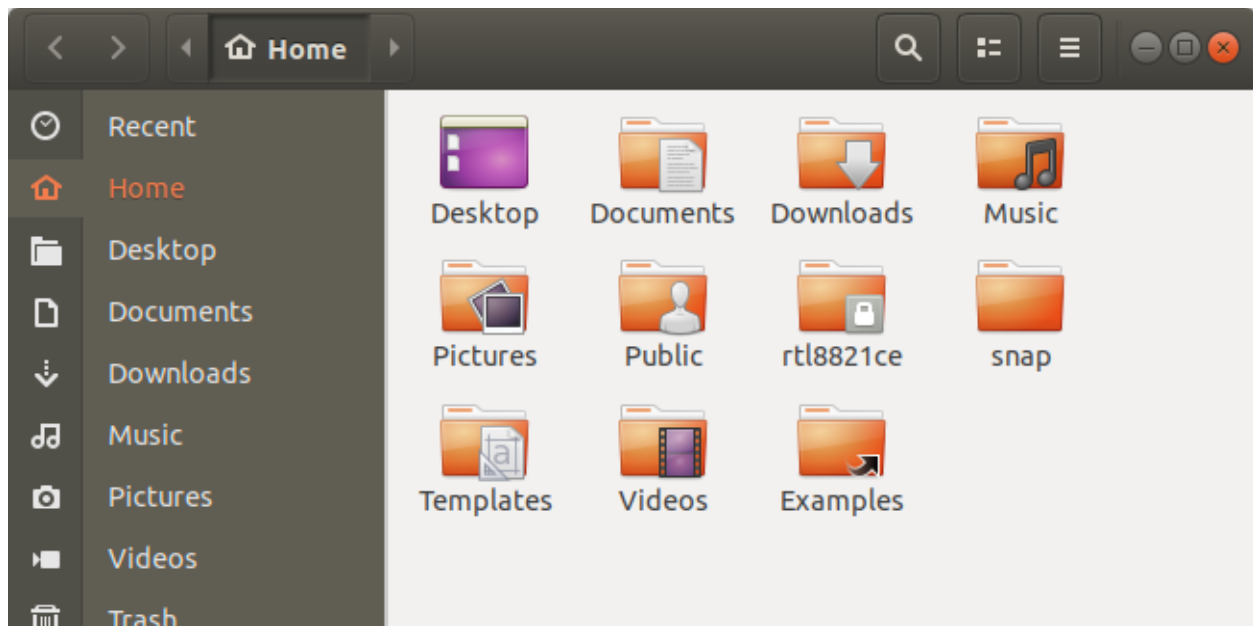Sahil Waingankar(Roll No.66)

Abstract

In this project we have implemented linux commands like ls, cp, mv using java programming language.

A shell is a special user program which provides an interface to the user to use operating system services. Shell accept human readable commands from the user and convert them into something which the kernel can understand. It is a command language interpreter that executes commands read from input devices such as keyboards or from files. The shell gets started when the user logs in or starts the terminal.

File and Directory Manipulation Commands :

1. ls : ls is a Linux shell command that lists directory contents of files and directories.
Ex :

2.cp : cp stands for copy. This command is used to copy files or groups of files or directory. It creates an exact image of a file on a disk with a different file name. *cp* command requires at least two filenames in its arguments.
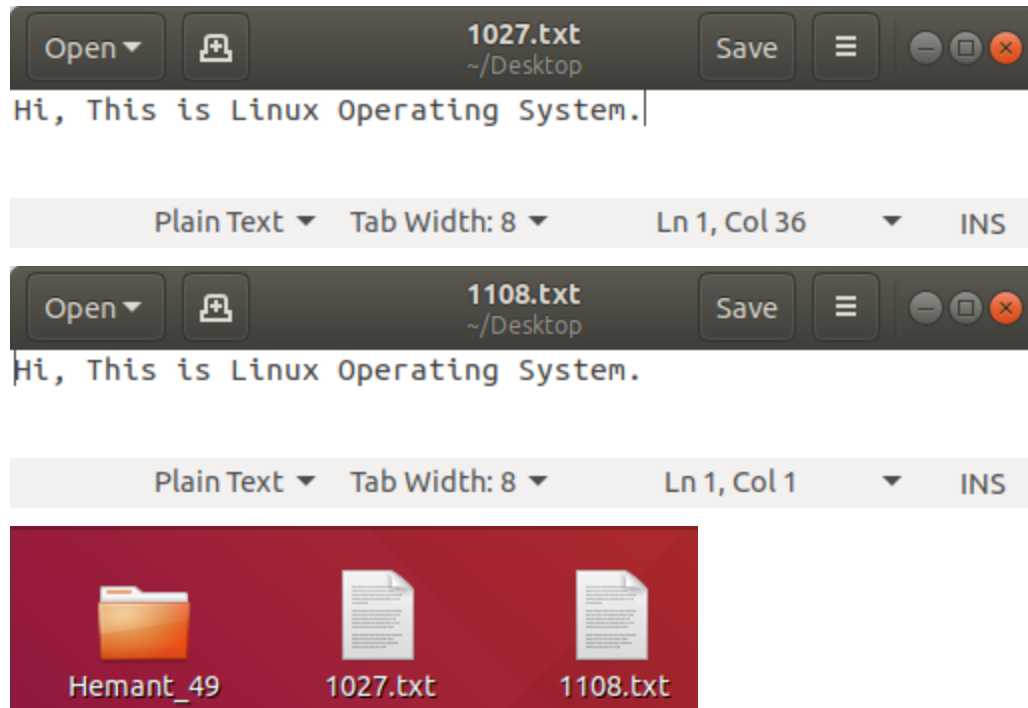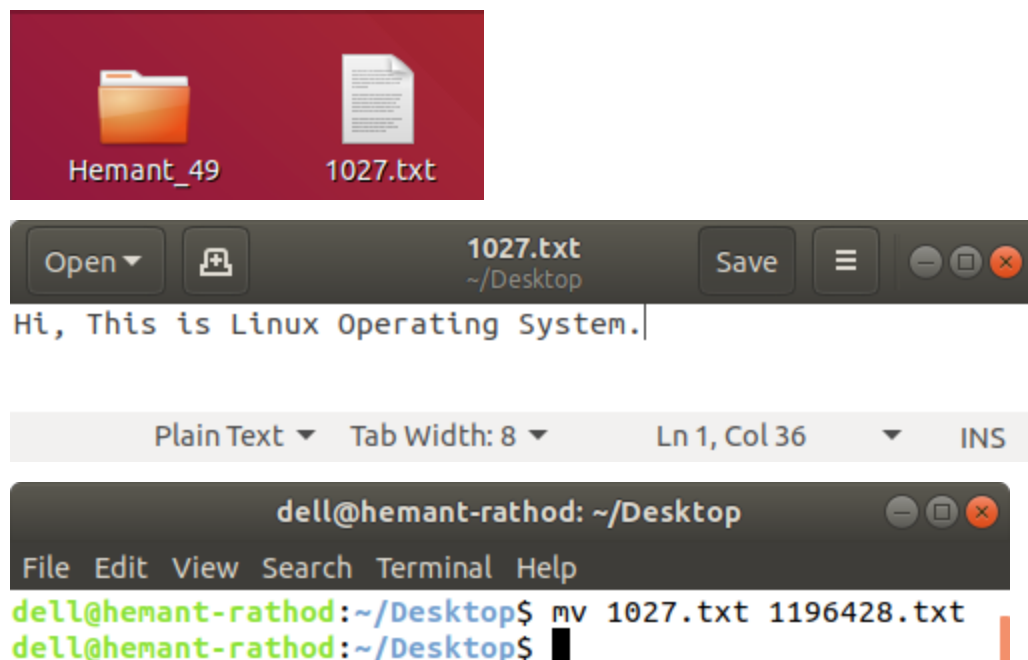
Ex :

This is a text file saved on Desktop.

When cp command is executed it copies the contents of 1027.txt to 1108.txt and if 1108.txt is not present initially it creates a file named 1108.txt and then copies contents of 1027.txt to it.

Open ▾ **1027.txt** ~/Desktop **Save** ≡

Hi, This is Linux Operating System.|

Plain Text ▾   Tab Width: 8 ▾   Ln 1, Col 36 ▾   INS

Open ▾ **1108.txt** ~/Desktop **Save** ≡

Hi, This is Linux Operating System.

Plain Text ▾   Tab Width: 8 ▾   Ln 1, Col 1 ▾   INS

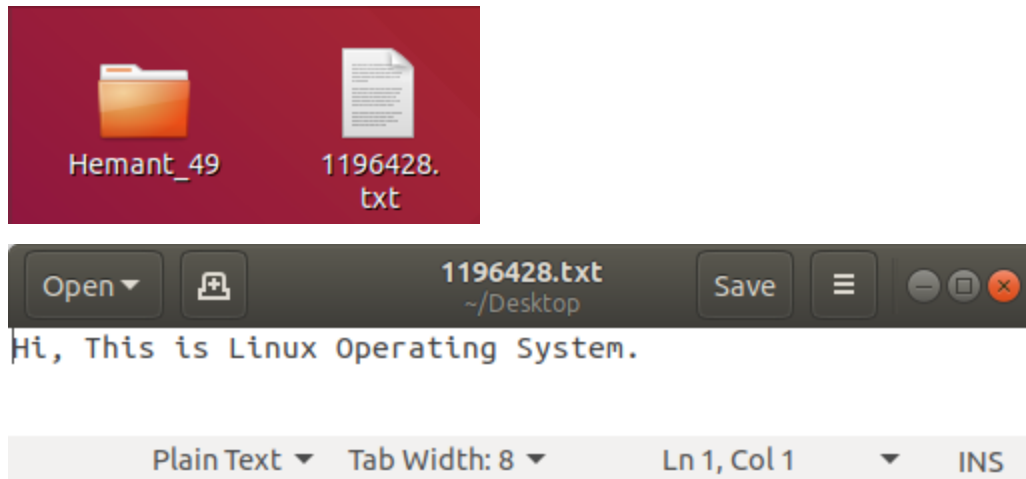Hemant_49   1027.txt   1108.txt

3.mv : mv stands for move. mv is used to move one or more files or directories from one place to another in a file system like UNIX. It has two distinct functions:
(i) It rename a file or folder.
(ii) It moves a group of files to different directories.

 Ex :

Hemant_49   1027.txt

Open ▾ **1027.txt** ~/Desktop **Save** ≡

Hi, This is Linux Operating System.|

Plain Text ▾   Tab Width: 8 ▾   Ln 1, Col 36 ▾   INS

dell@hemant-rathod: ~/Desktop

File Edit View Search Terminal Help

dell@hemant-rathod:~/Desktop$ mv 1027.txt 1196428.txt
dell@hemant-rathod:~/Desktop$ ▮

Here, when mv command is executed 1027.txt is renamed to 1196428.txt.

Program

1.ls :

```java
import java.io.File;
import java.util.*;

class Ls {
  public static void main(String[] args) {

    Scanner sc= new Scanner(System.in);
    // creates a file object
    System.out.println("\nEnter the path to Directory : ");
    String loc_1 = sc.nextLine();
    File file = new File(loc_1);

    // returns an array of all files
    String[] fileList = file.list();
    System.out.println("\n");

    for(String str : fileList) {
```

```
        System.out.println(str);
    }
  }
}
```

Output :

↑ | > This PC > New Volume (D:) > HR'S files > Unix mini project

Name	Date modified	Type	Size
Cp.class	6/22/2020 7:45 AM	CLASS File	2 KB
Cp	6/21/2020 7:59 PM	JAVA File	1 KB
Ls.class	6/22/2020 5:14 PM	CLASS File	1 KB
Ls	6/22/2020 5:14 PM	JAVA File	1 KB
Main	6/21/2020 9:46 PM	JAVA File	3 KB
Mv.class	6/22/2020 7:45 AM	CLASS File	2 KB
Mv	6/21/2020 7:59 PM	JAVA File	1 KB

```
C:\Windows\System32\cmd.exe                    —    □    ×

D:\HR'S files\Unix mini project>javac Ls.java

D:\HR'S files\Unix mini project>java Ls.java

Enter the path to Directory :
D:\HR'S files\Unix mini project


Cp.class
Cp.java
Ls.class
Ls.java
Main.java
Mv.class
Mv.java

D:\HR'S files\Unix mini project>
```

2.cp :
import java.io.BufferedReader;
import java.io.FileReader;
import java.io.FileWriter;

```java
import java.io.IOException;
 import java.util.*;
public class Cp {

        public static void main(String[] args) {

                Scanner sc= new Scanner(System.in);
                try {
                        System.out.println("\nEnter the name of File to be read with
extension: \n");
                        String loc_4 = sc.nextLine();
                        System.out.println("\nEnter the name of File in which contents
are to be copied: \n");
                        String loc_5 = sc.nextLine();
                        FileReader fr = new FileReader(loc_4);
                        BufferedReader br = new BufferedReader(fr);
                        FileWriter fw = new FileWriter(loc_5, true);
                        String s;

                        while ((s = br.readLine()) != null) { // read a line
                                fw.write(s); // write to output file
                                fw.flush();
                        }
                        br.close();
                        fw.close();
                   System.out.println("file copied");
                } catch (IOException e) {
                        // TODO Auto-generated catch block
                        e.printStackTrace();
                }
        }
}
```
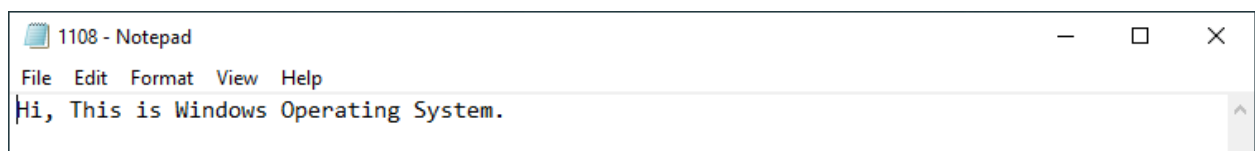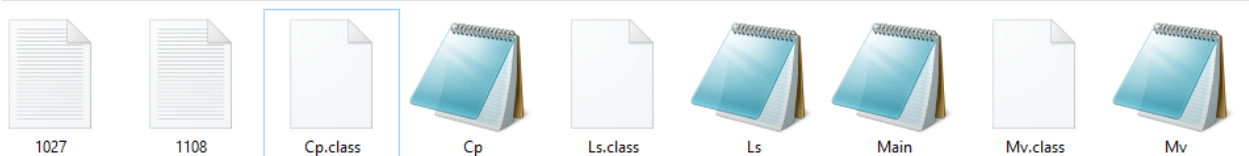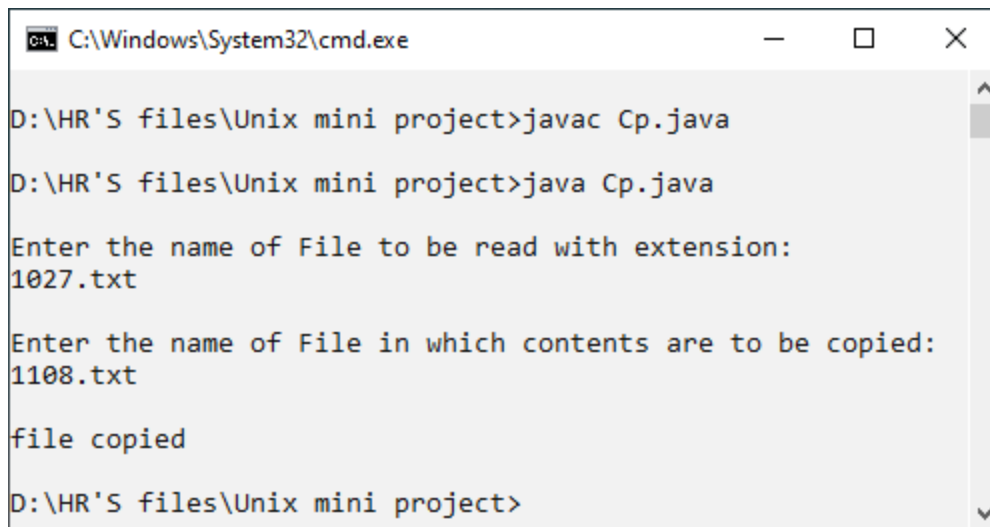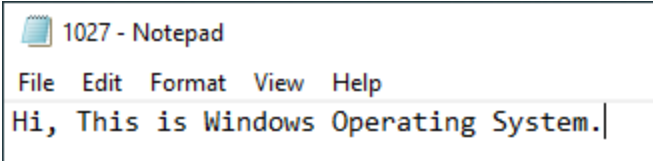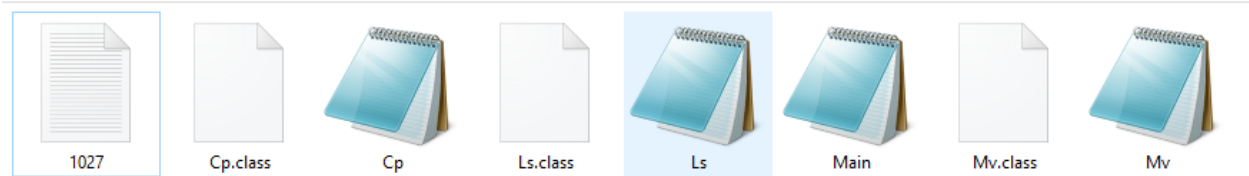**Output :**

```
C:\Windows\System32\cmd.exe                              —    □    ×

D:\HR'S files\Unix mini project>javac Cp.java

D:\HR'S files\Unix mini project>java Cp.java

Enter the name of File to be read with extension:
1027.txt

Enter the name of File in which contents are to be copied:
1108.txt

file copied

D:\HR'S files\Unix mini project>
```


3.mv :
// Java program to illustrate renaming and
// moving a file permanently to a new loaction
import java.io.*;
import java.nio.file.Files;
import java.nio.file.*;
import java.util.*;
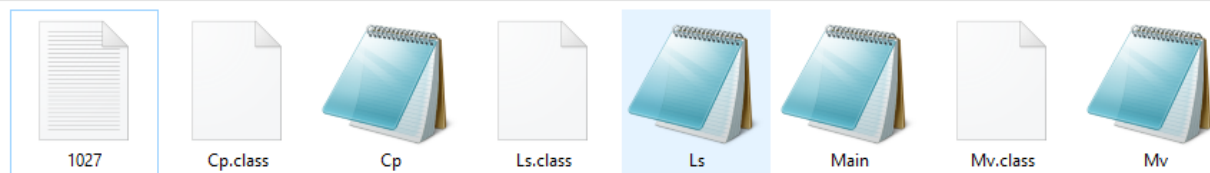
```java
public class Mv
{
    public static void main(String[] args) throws IOException
    {
        Scanner sc= new Scanner(System.in);

        System.out.println("\nEnter the path of File to be Read: ");
        String loc_2 = sc.nextLine();
        System.out.println("\nEnter the path to File in which contents are to be copied: ");
        String loc_3 = sc.nextLine();
        Path temp = Files.move
        (Paths.get(loc_2),
        Paths.get(loc_3));

        if(temp != null)
        {
            System.out.println("\nFile renamed and moved successfully");
        }
        else
        {
            System.out.println("\nFailed to move the file");
        }
    }
}
```

Output :

1027 - Notepad

File   Edit   Format   View   Help

Hi, This is Windows Operating System.

C:\Windows\System32\cmd.exe   —   □   ✕

```
D:\HR'S files\Unix mini project>javac Mv.java

D:\HR'S files\Unix mini project>java Mv.java

Enter the path of File to be Read:
D:\HR'S files\Unix mini project\1027.txt

Enter the path to File in which contents are to be copied:

D:\HR'S files\Unix mini project\1196428.txt

File renamed and moved successfully

D:\HR'S files\Unix mini project>
```
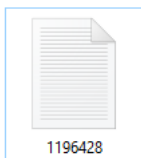

1196428   Cp.class   Cp   Ls.class   Ls   Main   Mv.class   Mv

---

1196428 - Notepad   —   □   ✕

File   Edit   Format   View   Help

Hi, This is Windows Operating System.