



AC Patil
College of Engineering

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Course Name: C.S.E. (IoT CS BC)

Course code: CSL403

Year: S.E.

Semester: IV

Roll No.: 53

Experiment Evaluation Sheet

Experiment No.: 3

Experiment Name:

to simulate basic Linux commands like ls, copy, rm
etc.,

Sr No.	Evaluation Criteria	Marks (Out of 9)	Performance Date	Correction Date and Signature of Instructor
1	Experiment Performance			
2	Journal Performance			
3	Punctuality			
Total				

Aim : To write a C program to simulate basic Linux commands like ls, copy, rm etc.,

Software required : Terminal

Theory :

Linux commands can be simulated in the high level language using Unix system calls and APIs available in the language. In addition, programming language construct can also be used to avail the Linux commands.

Exercises :

1. Siumulation of ls command

Algorithm :

1. Include necessary header files for manipulating directory.
2. Declare and initialize required objects.
3. Read the directory name form the user
4. Open the directory using opendir() system call and report error if the directory is not available
5. Read the entry available in the directory
6. Display the directory entry (ie., name of the file or sub directory).
7. Repeat the step 6 and 7 until all the entries were read.

/* 1. Siumulation of ls command */

```
#include<stdio.h>
#include<dirent.h>
#include<stdlib.h>
int main()
{
char dirname[10];
DIR*p;
struct dirent *d;
printf("Enter directory name\n");
scanf("%s",dirname);
p=opendir(dirname);
if(p==NULL)
{
perror("Cannot find directory1");
exit(-1);
}

while(d=readdir(p))
printf("%s\n",d->d_name);
return 0;
}
```

Output :

```
student@csiote-ThinkCentre-M70s:~$ cd Desktop
student@csiote-ThinkCentre-M70s:~/Desktop$ cd OSlab011
student@csiote-ThinkCentre-M70s:~/Desktop/OSlab011$ cd exp3
student@csiote-ThinkCentre-M70s:~/Desktop/OSlab011/exp3$ gcc simls.c -o out
student@csiote-ThinkCentre-M70s:~/Desktop/OSlab011/exp3$ ./out
Enter directory name
new
Cannot find directory1: No such file or directory
student@csiote-ThinkCentre-M70s:~/Desktop/OSlab011/exp3$ ./out
Enter directory name
new
greekfile.txt
.
..
```

/* 2. Simulation of rm command */

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
int main() {
    char filename[100];

    // Get file name from user
    printf("Enter filename to delete: ");
    scanf("%s", filename);

    // Attempt to remove the file
    if (remove(filename) == 0) {
        printf("File '%s' deleted successfully.\n", filename);
    } else {
        perror("Error deleting file");
    }

    return 0;
}
```

Output :

```
student@csiote-ThinkCentre-M70s:~/Desktop/OSlab011/exp3$ gcc simrm.c -o out
student@csiote-ThinkCentre-M70s:~/Desktop/OSlab011/exp3$ ./out
Enter source file name new

Cannot be removed
student@csiote-ThinkCentre-M70s:~/Desktop/OSlab011/exp3$ ./out
Enter source file name new

File/Dir removedstudent@csiote-ThinkCentre-M70s:~/Desktop/OSlab011/exp3$
```

Conclusion:

Thus C program was written to simulate some Linux Commands