

Operating System Lab | Practical 2

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Aim: Write a C program to simulate Directory management system calls of Linux

- a) Create directory (mkdir command)
- b) List the number of files in current directory(ls command)
- c) Navigate the directory (cd command)
- d) Remove directory (rmdir command)

Code:

```
#include <stdio.h>
#include <dirent.h>
#include <stdlib.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <unistd.h>
int main(int argc, char *argv[])
{
    int c, f, i;
    char *buf = NULL;
    char str[100];
    int count;
    struct dirent **files;
    int fd;
    char buf1[2];
    char dirname[10];
    DIR *p;
    struct dirent *d;
    char buf2[1000];
    char b2[1000];
    printf("\n1.Creat directory\n2.Remove Directory\n3.Change Directory\n4.List files in the
current directory\n5.Print current working directory\n");
    printf("Enter your choice:");
    scanf("%d", &i);
    while (i)
    {
        switch (i)
```

```

{
case 1:
    printf("Enter the name you want to give to the directory:\n");
    scanf("%s", str);
    f = mkdir(str, 0777);
    if (f == -1)
    {
        printf("Cannot create directory\n");
    }
    else
    {
        printf("Created directory %s\n", str);
    }
    break;
case 2:
    printf("Enter the directory you want to delete:\n");
    scanf("%s", str);
    f = rmdir(str);
    if (f == -1)
    {
        printf("Cannot remove directory\n");
    }
    else
    {
        printf("Removed directory %s\n", str);
    }
    break;
case 3:
    printf("Enter the new path: \n");
    scanf("%s", buf2);
    if(chdir(buf2) == -1){
        fprintf(stderr, "\n error: could not change to dir [%s] \n", buf2);
    }
    else{
        getcwd(b2, 1000);
        printf(" CWD is %s\n", b2);
    }
    break;
case 4:
    printf("Enter directory name\n");

```

```

scanf("%s", dirname);
p = opendir(dirname);
if (p == NULL)
{
    perror("Cannot find directory");
    exit(-1);
}
while (d = readdir(p))
{
    printf("%s\n", d->d_name);
}
break;
case 5:
    buf = (char *)malloc(100 * sizeof(char));
    getcwd(buf, 100);
    printf("\n %s \n", buf);
    break;
case 6:
    break;
default:
    printf("Invalid choice\n");
}
printf("Enter choice: \n");
scanf("%d", &i);
}
}

```

Output:

```
Activities Terminal May 3 22:00
abhash@abhash-VirtualBox: ~/practical2 os

abhash@abhash-VirtualBox:~/practical2 os$ gcc pract2.c
abhash@abhash-VirtualBox:~/practical2 os$ ./a.out

1.Create directory
2.Remove Directory
3.Change Directory
4.List files in the current directory
5.Print current working directory
Enter your choice:1
Enter the name you want to give to the directory:
abhash
Created directory abhash
Enter choice:
1
Enter the name you want to give to the directory:
abhash2
Created directory abhash2
Enter choice:
2
Enter the directory you want to delete:
abhash
Removed directory abhash
Enter choice:
3
Enter the new path:
duster
error: could not change to dir [duster]
Enter choice:
4
Enter directory name
abhash
Cannot find directory: No such file or directory
abhash@abhash-VirtualBox:~/practical2 os$ ./a.out

1.Create directory
2.Remove Directory
3.Change Directory
4.List files in the current directory
5.Print current working directory
Enter your choice:5

/home/abhash/practical2 os
Enter choice:
|
```