**OS - Practical - 2**

**Name: Rishabh Jain**

**Branch & Sem: CSE - IV**

**Sec: A**

**Roll no.:54**

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

**a) Create directory (mkdir comand)**

**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* <sys/stat.h>

*#include* <sys/types.h>

*#include* <stdlib.h>

*#include* <unistd.h>

*#include* <errno.h>

*#include* <dirent.h>

*#include* <stdbool.h>

*#include* <fcntl.h>

*#include* <string.h>

*#define* NAME\_MAX 100

int main(int *argc*, char \**argv*)

{

    int ch;

    int f;

    char CWD[1024], buf[NAME\_MAX], fname[300], dirName[10];

    DIR \*p;

    struct dirent \*d;

*while* (1)

    {

        printf("\nMenu\n1)Create directory\n2)List the number of files in current directory\n3)Navigate the directory\n4)Remove directory\n5)Exit\nEnter Your Choice:");

        scanf("%d", &ch);

*switch* (ch)

        {

*case* 1:

            printf("\nEnter the name of the directory: ");

            scanf("%s", fname);

            f = mkdir(fname, 0777);

*if* (f == -1)

            {

                printf("\nCannot create the directory.");

                exit(-1);

            }

*else*

                printf("\nDirectory with name [%s] is created", fname);

*break*;

*case* 2:

*if* (getcwd(CWD, sizeof(CWD)) != NULL)

            {

                fprintf(stdout, "\nCurrent working dir: %s\n", CWD);

            }

*else*

            {

                perror("getcwd() error");

            }

            p = opendir(CWD);

*if* (p == NULL)

            {

                perror("Cannot find directory\n");

                exit(-1);

            }

*else*

            {

*while* (d = readdir(p))

                {

                    printf("\n%s\t", d->d\_name);

                }

            }

*break*;

*case* 3:

            printf("\nEnter the name of the directory: ");

            scanf("%s", CWD);

            char \*path = malloc(100 \* sizeof(char));

            strcpy(path, CWD);

*if* (chdir(path) == -1)

            {

                fprintf(stderr, "\nError: could not change to dir %s.\n",buf);

            }

*else*

            {

                getcwd(buf, NAME\_MAX);

                printf("Directory is changed to %s.\n", buf);

            }

            free(path);

*break*;

*case* 4:

            printf("\nEnter the name of the directory: ");

            scanf("%s", fname);

            f = rmdir(fname);

*if* (f == -1)

            {

                printf("\nCannot remove the directory");

                exit(-1);

            }

*else*

            {

                printf("\nDirectory with name [%s] is deleted.", fname);

            }

*break*;

*case* 5:

            exit(0);

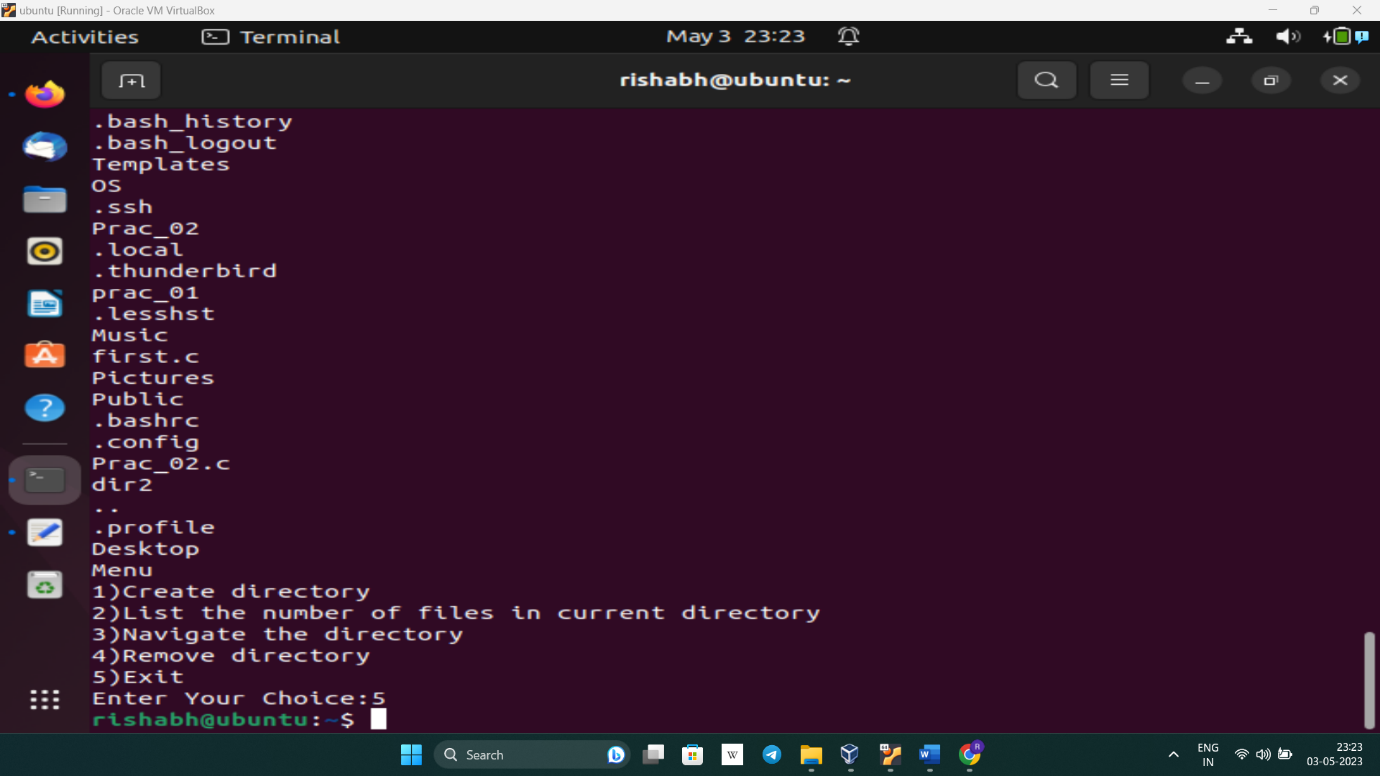
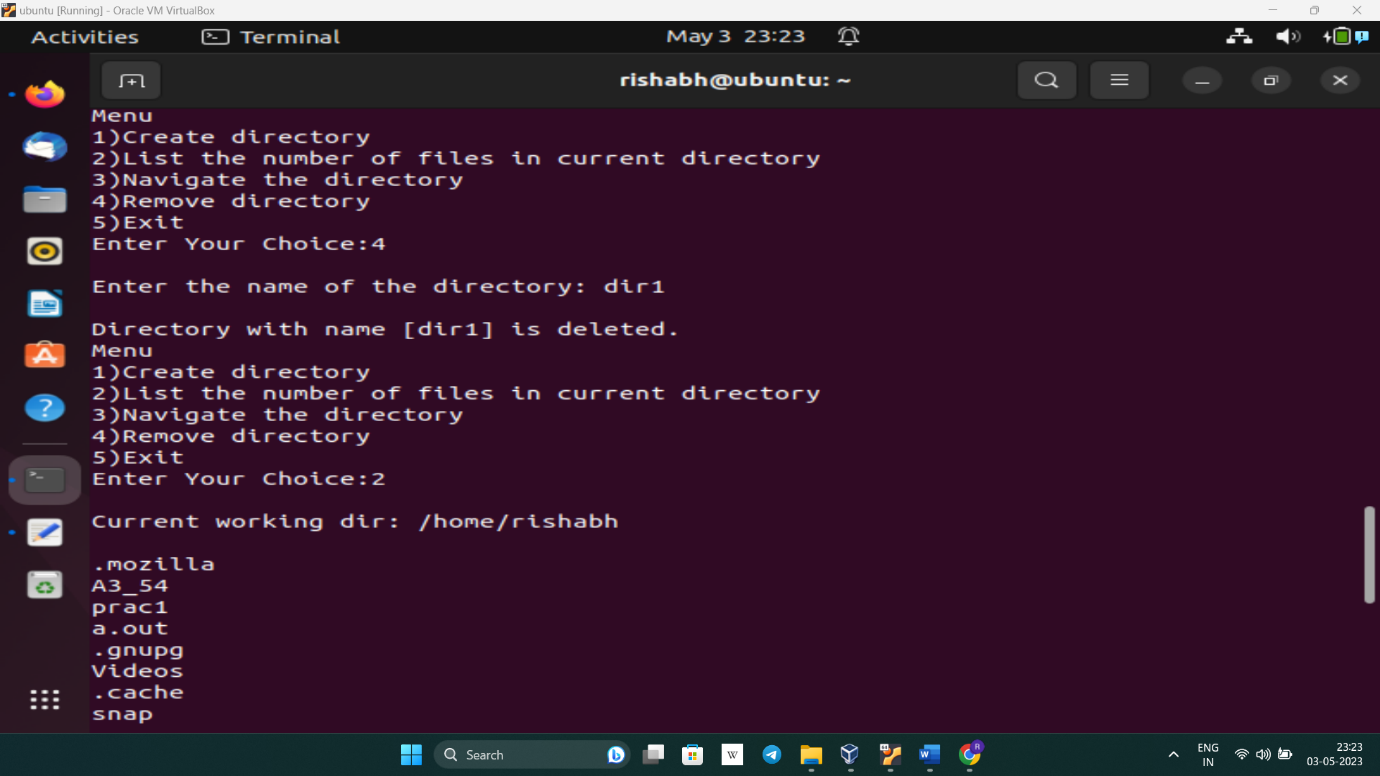
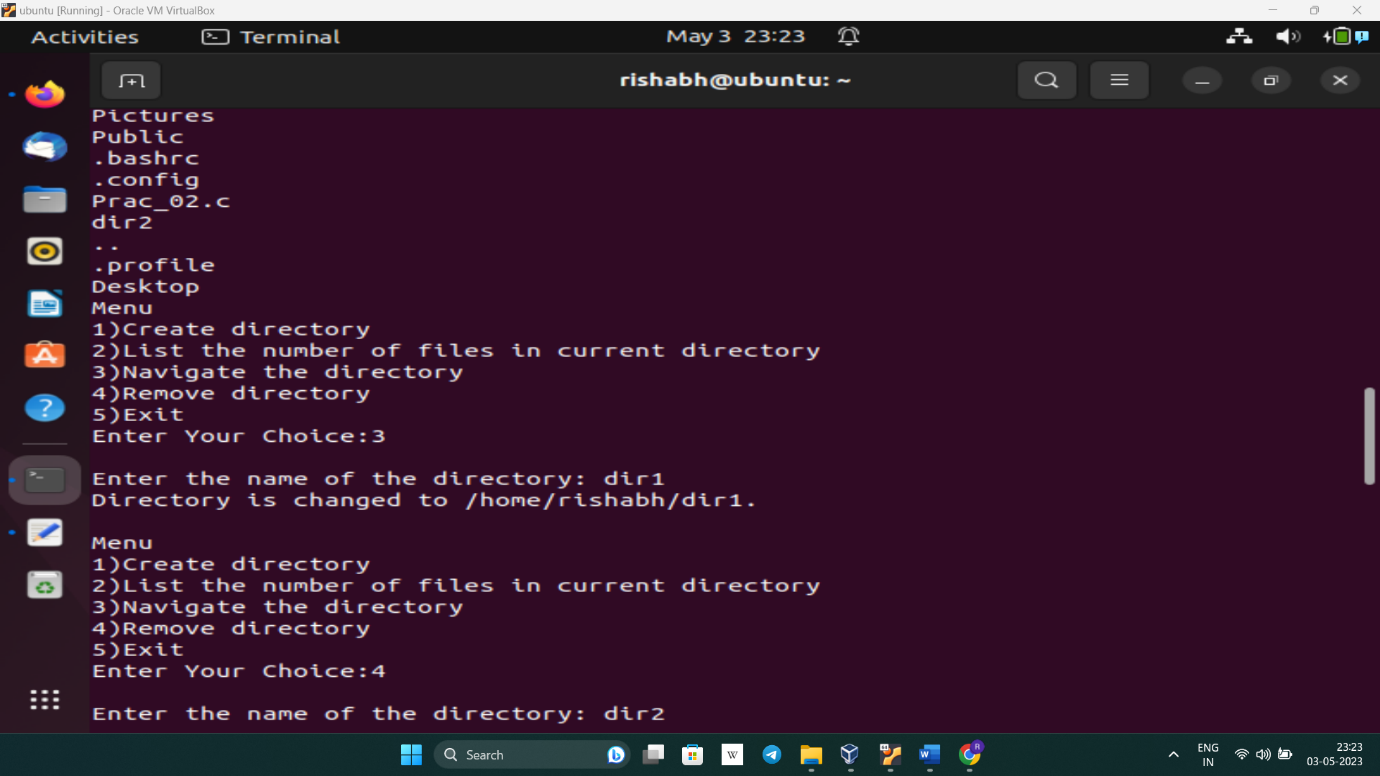
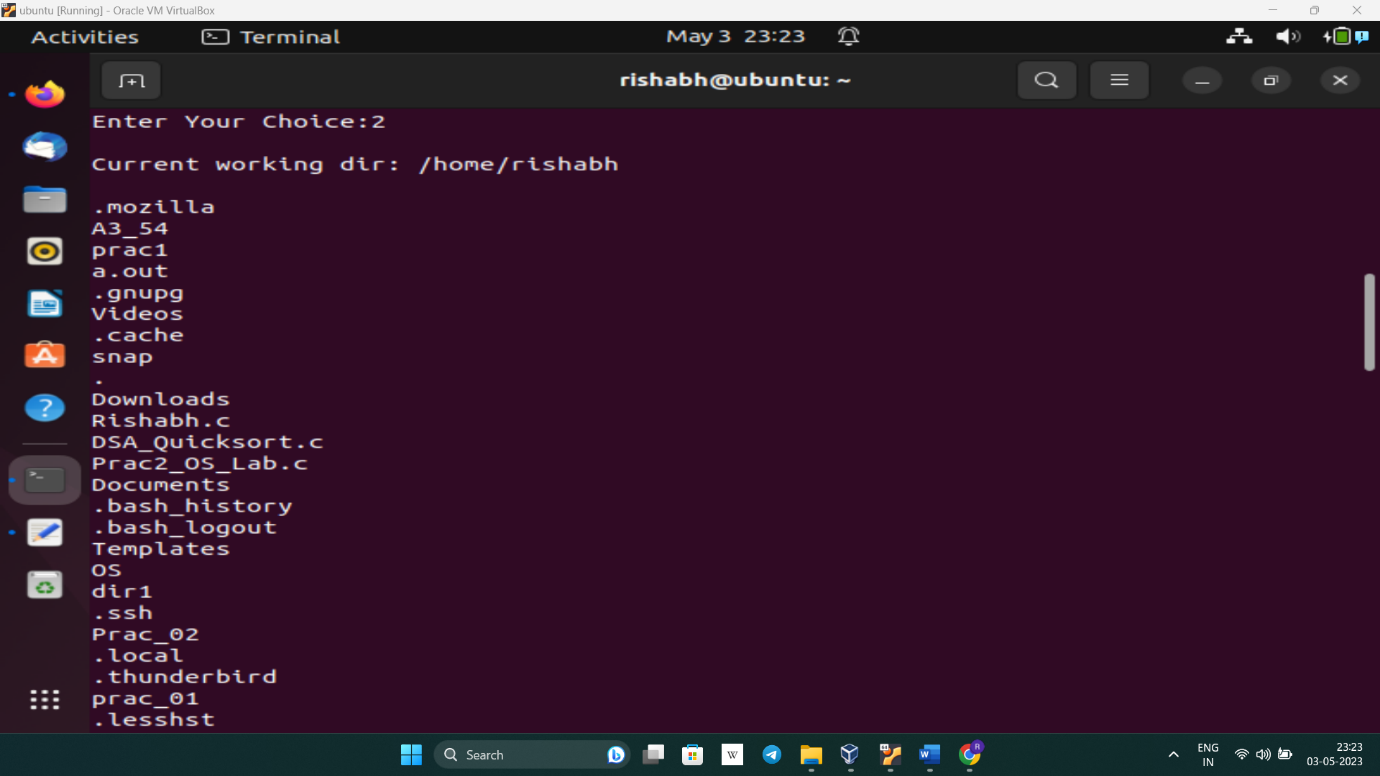
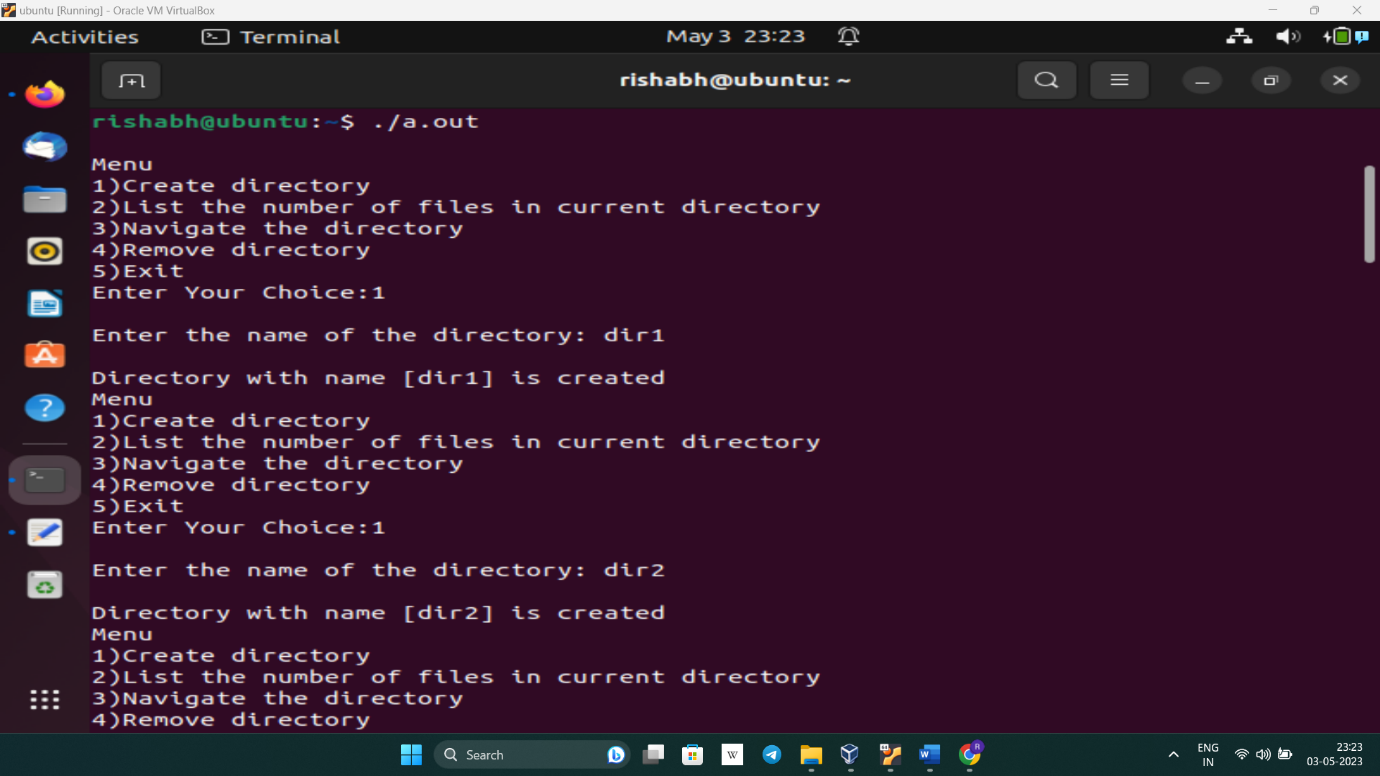
        }

    }

*return* 0;

}

**OUTPUT:**

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