**EXPERIMENT – 14**

14. Construct a C program to organize the file using single level directory.

#include <stdio.h>

#include <string.h>

#include <stdlib.h>

#define MAX\_FILES 100

#define MAX\_NAME\_LENGTH 50

struct Directory {

char fileName[MAX\_FILES][MAX\_NAME\_LENGTH];

int fileCount;

};

void createFile(struct Directory \*dir) {

if (dir->fileCount >= MAX\_FILES) {

printf("Directory is full. Cannot create more files.\n");

return;

}

char name[MAX\_NAME\_LENGTH];

printf("Enter the name of the file to create: ");

scanf("%s", name);

for (int i = 0; i < dir->fileCount; i++) {

if (strcmp(dir->fileName[i], name) == 0) {

printf("File already exists!\n");

return;

}

}

strcpy(dir->fileName[dir->fileCount], name);

dir->fileCount++;

printf("File '%s' created successfully.\n", name);

}

void deleteFile(struct Directory \*dir) {

char name[MAX\_NAME\_LENGTH];

printf("Enter the name of the file to delete: ");

scanf("%s", name);

for (int i = 0; i < dir->fileCount; i++) {

if (strcmp(dir->fileName[i], name) == 0) {

for (int j = i; j < dir->fileCount - 1; j++) {

strcpy(dir->fileName[j], dir->fileName[j + 1]);

}

dir->fileCount--;

printf("File '%s' deleted successfully.\n", name);

return;

}

}

printf("File not found.\n");

}

void searchFile(struct Directory \*dir) {

char name[MAX\_NAME\_LENGTH];

printf("Enter the name of the file to search: ");

scanf("%s", name);

for (int i = 0; i < dir->fileCount; i++) {

if (strcmp(dir->fileName[i], name) == 0) {

printf("File '%s' found at position %d.\n", name, i + 1);

return;

}

}

printf("File not found.\n");

}

void displayFiles(struct Directory \*dir) {

if (dir->fileCount == 0) {

printf("Directory is empty.\n");

return;

}

printf("Files in directory:\n");

for (int i = 0; i < dir->fileCount; i++) {

printf("%d. %s\n", i + 1, dir->fileName[i]);

}

}

int main() {

struct Directory dir;

dir.fileCount = 0;

int choice;

while (1) {

printf("\n--- Single-Level Directory Menu ---\n");

printf("1. Create File\n");

printf("2. Delete File\n");

printf("3. Search File\n");

printf("4. Display Files\n");

printf("5. Exit\n");

printf("Enter your choice: ");

scanf("%d", &choice);

switch (choice) {

case 1: createFile(&dir); break;

case 2: deleteFile(&dir); break;

case 3: searchFile(&dir); break;

case 4: displayFiles(&dir); break;

case 5: exit(0);

default: printf("Invalid choice. Try again.\n");

}

}

return 0;

}

SAMPLE OUTPUT:

--- Single-Level Directory Menu ---

1. Create File

2. Delete File

3. Search File

4. Display Files

5. Exit

Enter your choice: 1

Enter the name of the file to create: notes.txt

File 'notes.txt' created successfully.