13. Write a C program to implement single-level directory system. In which all the files are placed in one directory and there are no sub directories.

Test Case: Create one directory with the name of CSE and Add 3 files(A,B,C) in to that directory

Program:

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#define MAX\_FILES 100

#define MAX\_FILENAME\_LENGTH 20 struct file {

char name[MAX\_FILENAME\_LENGTH]; int size; };

struct directory {

char name[MAX\_FILENAME\_LENGTH];

struct file files[MAX\_FILES];

int num\_files;

};

void add\_file(struct directory \*dir, char \*filename, int size) {

if (dir->num\_files >= MAX\_FILES) { printf("Directory is full.\n");

return;

}

for (int i = 0; i < dir->num\_files; i++) { if (strcmp(dir->files[i].name, filename) == 0) { printf("File already exists in directory.\n"); return;

} }

struct file new\_file;

strncpy(new\_file.name, filename, MAX\_FILENAME\_LENGTH); new\_file.size = size;

dir->files[dir->num\_files] = new\_file; dir->num\_files++;

printf("File '%s' added to directory '%s'.\n", filename, dir->name);

} int main() {

struct directory cse\_directory;

strncpy(cse\_directory.name, "CSE", MAX\_FILENAME\_LENGTH); cse\_directory.num\_files = 0; add\_file(&cse\_directory, "A", 100); add\_file(&cse\_directory, "B", 200); add\_file(&cse\_directory, "C", 300);

return 0;

}

Output:

