

## **Ex No.: 12**

## **FILE ORGANIZATION TECHNIQUE**

Date : 24.04.2025

### **Aim :**

To implement File Organization Structures in C are:

- Single Level Directory
- Two-Level Directory

### **a. Single Level Directory :**

#### **Code:**

```
#include <stdio.h>

#include <string.h>

struct File {

    char name[20];

    int size;

};

int main() {

    int n, i;

    struct File files[20];

    printf("Enter the number of files: ");

    scanf("%d", &n);

    for (i = 0; i < n; i++) {

        printf("Enter name of file %d: ", i + 1);

        scanf("%s", files[i].name);

        printf("Enter size of file %d: ", i + 1);

        scanf("%d", &files[i].size);
```

```
    }

    printf("\nFiles in the directory:\n");

    printf("Name\tSize\n");

    for (i = 0; i < n; i++) {

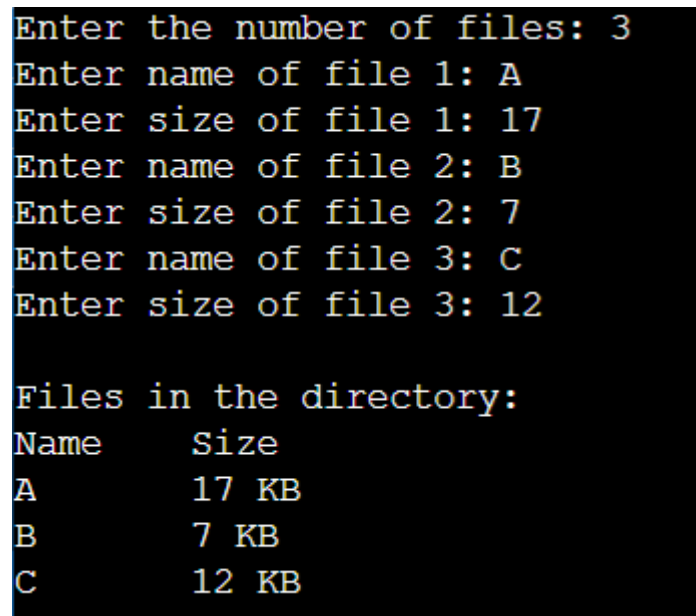
        printf("%s\t%d KB\n", files[i].name, files[i].size);

    }

    return 0;

}
```

### Output:



```
Enter the number of files: 3
Enter name of file 1: A
Enter size of file 1: 17
Enter name of file 2: B
Enter size of file 2: 7
Enter name of file 3: C
Enter size of file 3: 12

Files in the directory:
Name      Size
A          17 KB
B          7 KB
C          12 KB
```

### Result:

Thus the implementation of File Organization technique for Single level Directory has been executed successfully.

## **b. Two-Level Directory :**

### **Code:**

```
#include <stdio.h>

#include <string.h>

struct File {

    char name[20];

    int size;

};

struct Directory {

    char name[20];

    int fileCount;

    struct File files[20];

};

int main() {

    int dirCount, i, j;

    struct Directory dirs[10];

    printf("Enter the number of directories: ");

    scanf("%d", &dirCount);

    for (i = 0; i < dirCount; i++) {

        printf("\nEnter name of directory %d: ", i + 1);

        scanf("%s", dirs[i].name);

        printf("Enter number of files in directory '%s': ", dirs[i].name);

        scanf("%d", &dirs[i].fileCount);
```

```
    for (j = 0; j < dirs[i].fileCount; j++) {  
        printf("Enter name of file %d in directory '%s': ", j + 1, dirs[i].name);  
        scanf("%s", dirs[i].files[j].name);  
        printf("Enter size of file %d: ", j + 1);  
        scanf("%d", &dirs[i].files[j].size);  
    }  
}  
printf("\nDirectory Structure:\n");  
for (i = 0; i < dirCount; i++) {  
    printf("\nDirectory: %s\n", dirs[i].name);  
    printf("Files:\n");  
    printf("Name\tSize\n");  
    for (j = 0; j < dirs[i].fileCount; j++) {  
        printf("%s\t%d KB\n", dirs[i].files[j].name, dirs[i].files[j].size);  
    }  
}  
return 0;  
}
```

### Output:

```
Enter the number of directories: 2

Enter name of directory 1: Dir1
Enter number of files in directory 'Dir1': 2
Enter name of file 1 in directory 'Dir1': AA
Enter size of file 1: 12
Enter name of file 2 in directory 'Dir1': AB
Enter size of file 2: 16

Enter name of directory 2: Dir2
Enter number of files in directory 'Dir2': 1
Enter name of file 1 in directory 'Dir2': AAA
Enter size of file 1: 9

Directory Structure:

Directory: Dir1
Files:
Name      Size
AA        12 KB
AB        16 KB

Directory: Dir2
Files:
Name      Size
AAA       9 KB
```

### Result:

Thus the implementation of File Organization technique for Two-level Directory has been executed successfully.