

OPERATING SYSTEM - CS23431

EXP 12

FILE ORGANISATION TECHNIQUE – SINGLE AND TWO LEVEL DIRECTORY

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PROGRAM:

Single level directory:

```
#include <stdio.h>

struct directory {
    char dname[20];
    char fname[10][20];
    int f_count;
};

int main() {
    struct directory d;

    printf("Enter directory name: ");
    scanf("%s", d.dname);

    printf("Enter number of files in the directory: ");
    scanf("%d", &d.f_count);

    printf("Enter names for files:\n");

    for (int i = 0; i < d.f_count; i++) {
        printf("Enter name for file %d: ", i + 1);
        scanf("%s", d.fname[i]);

        printf("\n\t\t%s\n", d.dname);

        for (int j = 0; j <= i; j++) {
            printf("\t\t | \n");
            printf("\t\t --> (%s)\n", d.fname[j]);
        }
    }
}
```

```

        printf("\n");
    }

    return 0;
}

```

OUTPUT:

```

Enter directory name: SUBJECTS
Enter number of files in the directory: 2
Enter names for files:
Enter name for file 1: JAVA

        SUBJECTS
        |
        --> (JAVA)

Enter name for file 2: PYTHON

        SUBJECTS
        |
        --> (JAVA)
        |
        --> (PYTHON)

```

Two level directory:

```

#include <stdio.h>
#include <string.h>

struct directory {
    char dname[20];
    char subnames[10][20];
    int sub_count;
};

int main() {
    struct directory d;    // Main directory
    struct directory sub[10]; // Subdirectories or sub-files

    // Input root directory name

```

```

printf("Enter the name of dir/file (under null): ");
scanf("%s", d.dname);

// Number of sub-items under root directory
printf("How many users (for %s): ", d.dname);
scanf("%d", &d.sub_count);

// Input each subdirectory or file under root directory
for (int i = 0; i < d.sub_count; i++) {
    printf("Enter the name of dir/file (under %s): ", d.dname);
    scanf("%s", d.subnames[i]);

    // Input number of sub-items under this subdirectory
    printf("How many users (for %s): ", d.subnames[i]);
    scanf("%d", &sub[i].sub_count);

    strcpy(sub[i].dname, d.subnames[i]);

    // Input names under each subdirectory
    for (int j = 0; j < sub[i].sub_count; j++) {
        printf("Enter name of dir/file (under %s): ", sub[i].dname);
        scanf("%s", sub[i].subnames[j]);
    }
}

// Printing the directory structure
printf("\nDirectory Structure:\n");
for (int i = 0; i < d.sub_count; i++) {
    for (int j = 0; j < sub[i].sub_count; j++) {
        printf("\t\t | %s \n", d.dname);
        printf("\t\t \n");
        printf("\t\t | %s \n", sub[i].dname);
        printf("\t\t \n");
        printf("\t\t ( %s )\n", sub[i].subnames[j]);
        printf("\n");
    }
}

```

```
    }  
}  
  
return 0;  
}
```

OUTPUT:

```
Enter the name of dir/file(under null): SUBJECTS  
How many users(for SUBJECTS): 2  
Enter the name of dir/file(under SUBJECTS): JAVA  
How many users(for JAVA): 1  
Enter name of dir/file(under JAVA): STRINGS  
Enter the name of dir/file(under SUBJECTS): PYTHON  
How many users(for PYTHON): 1  
Enter name of dir/file(under PYTHON): MATPLOT  
  
      | SUBJECTS |  
      |  
      | JAVA |  
      |  
      ( STRINGS )  
  
      | SUBJECTS |  
      |  
      | PYTHON |  
      |  
      ( MATPLOT )
```