

**SSN COLLEGE OF ENGINEERING, KALAVAKKAM**  
(An Autonomous Institution, Affiliated to Anna University, Chennai)  
Department of Computer Science and Engineering

**UCS1411 – Operating Systems Laboratory**

**II Year CSE - B Section ( IV Semester)**

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**Lab Exercise 13**

**File Organization Techniques**

**AIM:**

To develop a C program to implement the following file organization techniques

- a) Single level Directory
- b) Hierarchical Structure

**Procedure:**

1. Single Level Directory
  - a. Maintain a table containing the filename and the starting address location of that file.
  - b. Give options for creating a new file.
  - c. When creating the file, check for name collision.
  - d. Update the table accordingly.
2. Tree Structured Directory
  - a. Maintain tables for each directory starting from root.
  - b. Create a structure for a node in tree which contains an array to hold directories and an array to hold files.
  - c. Limit each directory to have a maximum of three sub-directories and files.
  - d. For each sub-directory follow the same table structure as described above.

**SAMPLE INPUT & OUTPUT:**

**File Organization techniques**

**1.Single Level Directory**

**2. Tree structures directory**

**Enter your option: 1**

- 1.Create a file
- 2.List the files

Enter your option:1

Enter the name of the file: file1

File created!

- 1.Create a file
- 2.List the files

Enter your option:1

Enter the name of the file: file2

File created!

- 1.Create a file
- 2.List the files

Enter your option:1

Enter the name of the file: file2

File already exists!

Enter your option:2

Contents of root directory

File Name	Location
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file1	1000
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file2	3500
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- Similarly for all other structures