Part A: Micro-Project Proposal
Title: Directory Structure

1.0 Brief Introduction:

A directory structure in an operating system is a Hierarchical organization of the files and directories (also known as folders) that helps users and software programs to manage and locate files efficiently. It provides a systematic way to organize and store data on storage devices like hard drives or network servers. A directory structure forms a hierarchical tree-like organization, with the root directory at the top, Subdirectories branch out from the root, creating a nested structure. This hierarchy allows for a logical and structured arrangement of files and directories.

2.0 Aim of the Micro-Project:

To Study the concept of Directory Structure.

3.0 Intended Course Outcome:

a) Install operating system and configure it.
b) Use operating system tools to perform various functions.
c) Execute process commands for performing process management operation.
d) Apply Scheduling Algorithm to calculate turnaround time and average waiting time.
e) Calculate efficiency of different memory management techniques.
f) Apply file management techniques.

4.0 Literature Review:

Before the invention of directory structures and Hierarchical System, computing and users faced several significant challenges and limitations in terms of organizing and managing files and data

Difficulties Before Directory Structures:

- **Flat File Systems:** Early computing systems often used flat file systems where all files were stored in a single directory without any hierarchical structure. This led to naming conflicts, data clutter, and inefficient organization.

- **Lack of Organization:** Without a hierarchical structure, there was no effective way to categorize or organize files by type, project, or purpose. Users had to rely on unique file names to differentiate between files.

- **Data Integrity Concerns:** Flat file systems had limited mechanisms for maintaining data integrity. Data could be easily overwritten, deleted or corrupted.

- **Data Redundancy:** Without a structured way to organize files, data redundancy was common. Users often created duplicate files or stored the same data in multiple locations.

Solutions After the Introduction of Directory Structures:

- **Hierarchical Organization:** Directory structures introduced a hierarchical system where files and directories were organized in a tree-like structure. This allowed for a more logical and structured organization of data.

- **Scalability:** Directory structures made data management scalable. As data grew, additional directories and subdirectories could be created to accommodate the expanding volume of files.

- **Data Integrity:** Directory structures helped maintain data integrity by reducing the risk of accidental data overwrites, deletions or corruption.

- **Reduced Redundancy:** The structured organization of files and directories in a hierarchy reduced data redundancy. Files could be logically placed in appropriate directories, reducing the need for duplicates.

5.0 Proposed Methodology:

a) In this project we have selected the topic Directory Structure.
b) At first, we searched for the information from the Internet as well as from reference books.
c) Collected all Information required.
d) Taken the help of the guide in any difficulties came while doing the project.
e) Made the micro project proposal as per guidance.

6.0 Resource Required:

Sr. No.	Name of Resource/Material	Specifications	Qty
1.	Computer / Laptop	**OS:** Windows/Linux	-

7.0 Action Plan:

Sr. No	**Detail of Activity**	**Planned Start date**	**Planned Finish Date**	**Name of responsible team members**
1.	Discussion and finalization of topic.			Makhija Dhruv Harish
2.	Preparation and submission of abstract.			Badgujar Mohit Hemant
3.	Collection of Data.			Deore Samarthya Ravindra
4.	Preparing Algorithm and Flowchart.			Badgujar Mohit Hemant
5.	Development of Program.			Bhat Atharva Yogesh