

CSC 262 Operating Systems Course
Lab Final Question

File System and Manager Console

Objectives

You are asked to implement a virtual file system and a command line interface for the file system.

Basic operations you need to handle:

1. Open a File for reading : Open a file and lock accesses until it is closed
2. Open a File for writing : Open a file and lock accesses until it is closed
3. Close a File: close and remove all the locks
4. Copy a file
5. Move a file
6. Delete a file
7. Create a file
8. Insert into a file
9. List available files

Details

You can provide any command set for the above operations from the command line interface you have created.

You can code your project at any language (preferably in Java)

Provide a global locking solution for your files.

Provide a string insertion to your file and you are free to come with any design you want.

Do not use the file locks in operating system level or java virtual machine. Instead, provide your own solution for file locks.

Provide a synchronization mechanism for readers or writer locks.

You can create the file system virtually (you don't even need to create files or directories on the file system of operating system, you can handle the file system only in ram with classes if you feel more comfortable).

Each file will have a name, size of characters and access time in your file system.