

in this assignment, you will use some of the techniques you learn to do a basic file application that runs on a local computer.

You are free to pick any OS or programming language.

The assignment will have three main tasks.

1. Recognizing identical files: In this task, your application will pick a folder (or drive) and scan through all files under the folder. The application will then efficiently recognize identical files. The files can have different values but their content is identical to each other. The output of the application will be the list of identical files.

2. Checkpointing files: In this task, you will take a snapshot of the files in a folder (or drive) and create a checkpoint that will be used in the next task. Basically, this checkpoint will be used to identify the modified files. Make sure that the checkpoint file itself is also protected, so if somebody modifies it you can detect that.

3. Identifying modified files: In this task you will read a checkpoint file which is created earlier, and detect the modified files since the creation of the checkpoint. The output of this task will be the listing of the modified files.

The grading will be done by a demo. The grading will consider the functional correctness, security, and efficiency of the application.

Please submit all source code in a zip file.

Thanks