Backup Restore program design

Name: Pooja Nadagouda

This program performs 2 functions:
Backup: uploads the files from local to AWS Cloud S3 storage.
Restore: downloads the files from AWS Cloud S3 storage to your local.
The program backups only files which are modified in the local. But in case of restore it downloads all the files from the cloud from given bucket name and directory.

Design:
The program makes use of following specification:
- Programming language: python
- Cloud provider: AWS
- Storage: S3

It contains 3 class python files:
- Main.py
- BackupToCloud.py
- RestoreToLocal.py

Main:
This class contains methods which validate the arguments passed by the user and passes them to the next respective class for the required operation to be performed i.e., backup or restore. If user has entered invalid options other than backup or restore, it shows error message to the user. In case a successful backup or restore is performed, it displays the list of files backed up or restored.

BackupToCloud:
This class contains methods which are required to backup files to the cloud.
Firstly, it checks if the bucket exists for the bucket name passed by the user, else it creates the bucket. Secondly, it fetches the file names from your local, and from the cloud, along with their corresponding modified timestamp. These files from cloud and local are compared with their respective timestamps, if the timestamp of any of the local files (in the user mentioned directory) is greater than the timestamp of the files in cloud (in user mentioned busscket::directory), then those files are uploaded to the cloud, by maintaining the file structure as in the local.

RestoreToLocal:
This class contains methods which fetches all the files from the cloud in the specific bucket::directory as mentioned by the user and downloads them to the local in the path mentioned by the user, maintaining the folder structure.