***NOTE:***

Explicitly state the assumptions you are making, if any.

*Add the scripts to a public git repo (github, gitlab, bitbucket) and email the repo URLs. The Name format should be: Your name + Date (DD-MM-YY)*

**Assignment 1:- Python**  
  
Implement a cache that on start-up would load data from a file into the cache. The cache would have an initial size of 20 elements and upon reaching its limit, to add any new element it would remove the least recently accessed element. On shutdown it should store the cached data back to the file. The data should be stored in the cache according to a caching strategy. Provide options for cache CRUD.

Testing Dataset : records of students. You need to create the test dataset. The student record would have data such as - their ID's, classes enrolled and marks obtained in them. The records should be cached in a sorted manner according to the student marks.

Document your choice of data structure and implementation​ strategy. Also the necessary steps to get it running with the test data set.

**Assignment 2:- JAVA**

**Disk Backed Map Collection:**

* **Implement a Map, which spills on to disk when it exceeds the heap, or a specified limit.**
  + Time Complexity should be same as Current NavigableMap implementations (eg: TreeMap)
  + Should be capable of handling in a multithreaded environment.
  + put() and get() operations, should be Thread Safe.
  + Should be Serializable to disk
  + Should provide API level Tuning configurations, Where ever applicable.