**Assignment 1**

Implemented a cache that on start-up would load data from a “.csv” file into the cache. The cache has 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 cached data is strored back to the file in a sorted order. The data is stored in the cache according to the Least Reacently Used caching strategy. Options for cache CRUD are provided.

**Getting Started**

Download/fork the following files:

1. pyCache.py
2. students\_dataset.csv

Create a new folder and add both the files to it. This is the project folder which will be used.

**Prerequisites**

Before proceeding with implementing the project, we need to review some required dependencies and libraries. I performed the installation process on Ubuntu 16.04 to make the installation much easier.

1. Python:

* Check the current python version by typing the following into the terminal “python3 --version”
* If no version is displayd, download and install the latest release of python 3.x from the python website ‘<https://www.python.org/>’

2. pip:

* Download pip using ‘sudo apt-get install python3-pip’

**Running the application**

1. To run the application open the terminal and navigate to the project folder.
2. Type ‘python3 pyCache.py’
3. The application opens a new tkinter window with the top 20 student detials(sorted according to total marks scored) displayed in a scrollable list.

**Using the application**

1. Create : Creates a new entry and stores it in the cache removing the Least Reacently Used elemnt from the lsit. It is displayed at the end of the list.
2. Read : Reads and displays the selected entry from the list.
3. Edit : Loads the selected student entry to be edited.
4. Delete : Deletes the selected student entry.
5. Quit : Use the quit button to close the application. As it saves any changes made to the list to the file.