# Lab 1
# Introduction

CSE 4308

DATABASE MANAGEMENT SYSTEMS LAB

AUGUST 3, 2022

Before the advent of databases, information was recorded using the traditional file system. In this lab, we want to experience how life was back then.
Consider that your database consists of two files, namely '`studentInfo.txt`' and '`grades.txt`'. Each row of the `studentInfo.txt` file contains *Student ID*, *Name*, *Age*, *Blood Group*, and *Department* of a student. And each row of the `grades.txt` file contains the *Student ID*, *GPA*, and the *Semester* in which that GPA was achieved.
Assume that the values of *Student ID* and *Age* fit within the range of a 32-bit integer. The values under *Name*, *Blood Group*, and *Department* have at most 10 characters. The *GPA*s are given as floating point values within [2.50, 4.00].
It is guaranteed that the *Student ID*s are unique for each student. The values for each *field* is separated by semicolon (;).
Now, write separate programs (using any programming language that you prefer) to accomplish the following tasks:

1. Print the *Student ID* having the highest GPA among all the students.

2. Take *Student ID*, *GPA*, and *Semester* as input. Then after validating the input, insert the information as a new row in the `grades.txt` file. If the information is invalid, discard the input and show an error message.

3. Take *Student ID* as input and show his/her name and CGPA (average GPA for all the semesters he/she attended). Print an error message if the *Student ID* does not exist in your database.