# Mastering Embedded System Online Diploma

www.learn-in-depth.com

First Term (Final project 2)

Engineer. Abdelrahman Aref Nadi

My profile:

https://www.learn-in-depth.com/online-diploma/abdo01445%40gmail.com

# Student management using queue

## Problem statement:

- Write a program to build a simple software for student information management system which can perform the following operations:
    1. Store the first name of the student.
    2. Store the last name of the student.
    3. Store the unique roll number for every student.
    4. Store the GPA of every student.
    5. Store the courses registered by the student.

## Approach:

Nine functions have implemented and unified to build this system.

**1. Add a student manually.**

**Cases:**

- A student with unique roll number.
- A student with repeated roll number.

**2. Add students from text file.**

**Cases:**

- **Text file: includes a repeated roll number.**

**3. Find a student by the given roll number.**

**Cases:**

- Roll number is registered.
- Roll number is not registered.

**4. Find a student by the given first name.**

**Cases:**

- First name is registered.
- First name is not registered.

**5. Find the students registered in a course by the given course ID.**

**Cases:**

- Course ID is registered.
- Course ID is not registered.

**6. Find the total number of registered students.**

7. **Delete a student by the given roll number.**

**Cases:**

- Roll number is registered.
- Roll number is not registered.

8. **Update a student information by the given roll number.**

**Cases:**

- **Roll number is registered.**
    A. Update first name.
    B. Update last name.
    C. Update roll number.
    D. Update GPA.
    E. Update Courses' IDs.
- **Roll number is not registered.**

9. **Show all the information of the registered students.**

10. **Exit the software.**

## Appendix:

**1.1. You can also watch a video of testing.**

**My google drive:**

https://drive.google.com/drive/folders/1nzpPKi_RGB4OOEPuNXRIL_Tu4akSJTSA?usp=share_link

**1.2. You can also see all (.c) , (.h) and (.exe) in my github repository :**

https://github.com/aaref5720/Master_Embedded_Systems/tree/main/Unit_5_First_Term_Projects/Project_2_Students_Database_Using_Queue/Source_Code