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## ***Mastering Embedded System Online Diploma***

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### **First Term Project2: [Student Management System](#)**

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5. Find the Student Details by Course Id
6. Find the Total number of Students
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8. Update the Students Details by Roll Number
  - Roll Number
  - First Name
  - Last Name
  - GPA
  - Courses IDs
9. Show all
0. Exit

## ➤ Test Cases

## ➤ **Problem Statement**

A simple software for student information management system which can perform the following operations:

1. Store student first name.
2. Store student last name.
3. Store unique roll number for every student.
4. Store student GPA.
5. Store courses registered by the student.

## ➤ **Functions & Description**

### **1. Add the Student Details From Text File**

Add Information from text file in the same direction of .exe file. The information is separated by space to can designate between it.

### **2. Add the Student Details Manually**

Add student manually to database by entering roll number, first, last name, GPA, id of enrolled courses.

### **3. Find the Student Details by Roll Number**

You can find student and its information by roll number and if it does not exist you will get error message.

#### **4. Find the Student Details by First Name**

You can find all students and their information by first name and if it does not exist you will get error message.

#### **5. Find the Student Details by Course Id**

You can find all students and their information that enrolled in searched course or error message if the course is not correct.

#### **6. Find the Total number of Students**

It displays the total students in the database.

#### **7. Delete the Students Details by Roll Number**

You can delete student its roll number if program found it, it will be deleted successfully if not will display error message.

#### **8. Update the Students Details by Roll Number**

In update section you can update each info individually (roll number, first, last name, GPA, id of enrolled courses) and after each update ask the user if wants to update anything else.

#### **9. Show all**

Display all students in the database and if there are no students print "Empty".

## 0. Exit

Free dynamic allocation and terminate the program.

### ➤ Test Cases

```
Welcome to the Student Management System
Choose The Task that you want to perform
1. Add the Student Details From Text File
2. Add the Student Details Manually
3. Find the Student Details by Roll Number
4. Find the Student Details by First Name
5. Find the Student Details by Course Id
6. Find the Total number of Students
7. Delete the Students Details by Roll Number
8. Update the Students Details by Roll Number
9. Show all information
0. Exit
Enter your choice to perform the task: 1
-----
Enter file name (ex: xyz.txt): file.txt
[INFO] Roll Number 1 Is Added Successfully
[ERORR] Roll Number Is Already Taken!!
[INFO] Roll Number 3 Is Added Successfully
[INFO] Roll Number 4 Is Added Successfully
[INFO] Student Details Is Added Successfully
-----
Choose The Task that you want to perform
1. Add the Student Details From Text File
2. Add the Student Details Manually
3. Find the Student Details by Roll Number
4. Find the Student Details by First Name
5. Find the Student Details by Course Id
6. Find the Total number of Students
7. Delete the Students Details by Roll Number
8. Update the Students Details by Roll Number
9. Show all information
0. Exit
Enter your choice to perform the task: 9
-----
```

-----  
All Students Info

Student first name: Marco  
Student last name: Magdy  
Student roll number: 1  
Student GPA: 3.50  
Course 1 ID: 1  
Course 2 ID: 2  
Course 3 ID: 3  
Course 4 ID: 4  
Course 5 ID: 5

-----  
Student first name: Bolis  
Student last name: Karam  
Student roll number: 3  
Student GPA: 3.50  
Course 1 ID: 45  
Course 2 ID: 21  
Course 3 ID: 55  
Course 4 ID: 18  
Course 5 ID: 46

-----  
Student first name: Kerolos  
Student last name: Gamal  
Student roll number: 4  
Student GPA: 3.50  
Course 1 ID: 45  
Course 2 ID: 21  
Course 3 ID: 55  
Course 4 ID: 18  
Course 5 ID: 46

```
Choose The Task that you want to perform
1. Add the Student Details From Text File
2. Add the Student Details Manually
3. Find the Student Details by Roll Number
4. Find the Student Details by First Name
5. Find the Student Details by Course Id
6. Find the Total number of Students
7. Delete the Students Details by Roll Number
8. Update the Students Details by Roll Number
9. Show all information
0. Exit
```

```
Enter your choice to perform the task: 2
```

```
-----
Add Student Details
```

```
Enter Student Roll Number: 2
```

```
Enter Student First Name: Ahmed
```

```
Enter Student Last Name: Aseel
```

```
Enter Student GPA: 3.3
```

```
Enter the course ID for each course
```

```
Course 1 ID: 1
```

```
Course 2 ID: 2
```

```
Course 3 ID: 3
```

```
Course 4 ID: 4
```

```
Course 5 ID: 5
```

```
[INFO] Student Details Is Added Successfully
```

```
-----
Choose The Task that you want to perform
1. Add the Student Details From Text File
2. Add the Student Details Manually
3. Find the Student Details by Roll Number
4. Find the Student Details by First Name
5. Find the Student Details by Course Id
6. Find the Total number of Students
7. Delete the Students Details by Roll Number
8. Update the Students Details by Roll Number
9. Show all information
0. Exit
```

```
Enter your choice to perform the task: 6
```

Enter your choice to perform the task: 6

-----

[INFO] The Total Number Of Student : 4

-----

Choose The Task that you want to perform

1. Add the Student Details From Text File
2. Add the Student Details Manually
3. Find the Student Details by Roll Number
4. Find the Student Details by First Name
5. Find the Student Details by Course Id
6. Find the Total number of Students
7. Delete the Students Details by Roll Number
8. Update the Students Details by Roll Number
9. Show all information
0. Exit

Enter your choice to perform the task: 3

-----

Enter Roll Number of the student: 10

[ERROR] Roll Number 10 Not Found!!

-----

Choose The Task that you want to perform

1. Add the Student Details From Text File
2. Add the Student Details Manually
3. Find the Student Details by Roll Number
4. Find the Student Details by First Name
5. Find the Student Details by Course Id
6. Find the Total number of Students
7. Delete the Students Details by Roll Number
8. Update the Students Details by Roll Number
9. Show all information
0. Exit

Enter your choice to perform the task: 3



```
-----  
Enter Roll Number of the student: 2  
The Student Details are  
Student first name: Ahmed  
Student last name: Aseel  
Student roll number: 2  
Student GPA: 3.30  
Course 1 ID: 1  
Course 2 ID: 2  
Course 3 ID: 3  
Course 4 ID: 4  
Course 5 ID: 5  
-----  
Choose The Task that you want to perform  
1. Add the Student Details From Text File  
2. Add the Student Details Manually  
3. Find the Student Details by Roll Number  
4. Find the Student Details by First Name  
5. Find the Student Details by Course Id  
6. Find the Total number of Students  
7. Delete the Students Details by Roll Number  
8. Update the Students Details by Roll Number  
9. Show all information  
0. Exit  
Enter your choice to perform the task: 4  
-----  
Enter First Name of the student: Marco  
The Student Details are  
Student first name: Marco  
Student last name: Magdy  
Student roll number: 1  
Student GPA: 3.50  
Course 1 ID: 1  
Course 2 ID: 2  
Course 3 ID: 3  
Course 4 ID: 4  
Course 5 ID: 5  
-----
```

```
Choose The Task that you want to perform
1. Add the Student Details From Text File
2. Add the Student Details Manually
3. Find the Student Details by Roll Number
4. Find the Student Details by First Name
5. Find the Student Details by Course Id
6. Find the Total number of Students
7. Delete the Students Details by Roll Number
8. Update the Students Details by Roll Number
9. Show all information
0. Exit
```

```
Enter your choice to perform the task: 5
```

```
-----
Enter The Course ID: 3
The Student Details are
Student first name: Marco
Student last name: Magdy
Student roll number: 1
Student GPA: 3.50
```

```
-----
The Student Details are
Student first name: Ahmed
Student last name: Aseel
Student roll number: 2
Student GPA: 3.30
```

```
-----
Choose The Task that you want to perform
1. Add the Student Details From Text File
2. Add the Student Details Manually
3. Find the Student Details by Roll Number
4. Find the Student Details by First Name
5. Find the Student Details by Course Id
6. Find the Total number of Students
7. Delete the Students Details by Roll Number
8. Update the Students Details by Roll Number
9. Show all information
0. Exit
```

```
Enter your choice to perform the task: 8
```

```
-----
Enter Roll Number of the student: 4
1. First Name
2. Last Name
3. Roll Number
4. GPA
5. Courses
Enter your choice: 4
Enter The New GPA: 2.8
[INFO] UPDATED SUCCESSFULLY.

-----
Do You Want To Update Anything Else? (y/n): y

-----
1. First Name
2. Last Name
3. Roll Number
4. GPA
5. Courses
Enter your choice: 2
Enter The New Last Name: Shenoda
[INFO] UPDATED SUCCESSFULLY.

-----
Do You Want To Update Anything Else? (y/n): n

-----
Choose The Task that you want to perform
1. Add the Student Details From Text File
2. Add the Student Details Manually
3. Find the Student Details by Roll Number
4. Find the Student Details by First Name
5. Find the Student Details by Course Id
6. Find the Total number of Students
7. Delete the Students Details by Roll Number
8. Update the Students Details by Roll Number
9. Show all information
0. Exit
Enter your choice to perform the task: 9
```

-----  
All Students Info

Student first name: Marco  
Student last name: Magdy  
Student roll number: 1  
Student GPA: 3.50  
Course 1 ID: 1  
Course 2 ID: 2  
Course 3 ID: 3  
Course 4 ID: 4  
Course 5 ID: 5

-----  
Student first name: Bolis  
Student last name: Karam  
Student roll number: 3  
Student GPA: 3.50  
Course 1 ID: 45  
Course 2 ID: 21  
Course 3 ID: 55  
Course 4 ID: 18  
Course 5 ID: 46

-----  
Student first name: Kerolos  
Student last name: Shenoda  
Student roll number: 4  
Student GPA: 2.80  
Course 1 ID: 45  
Course 2 ID: 21  
Course 3 ID: 55  
Course 4 ID: 18  
Course 5 ID: 46

```
-----
Student first name: Ahmed
Student last name: Aseel
Student roll number: 2
Student GPA: 3.30
Course 1 ID: 1
Course 2 ID: 2
Course 3 ID: 3
Course 4 ID: 4
Course 5 ID: 5
-----
Choose The Task that you want to perform
1. Add the Student Details From Text File
2. Add the Student Details Manually
3. Find the Student Details by Roll Number
4. Find the Student Details by First Name
5. Find the Student Details by Course Id
6. Find the Total number of Students
7. Delete the Students Details by Roll Number
8. Update the Students Details by Roll Number
9. Show all information
0. Exit
Enter your choice to perform the task: 7
-----
Enter Roll Number you want to delete: 1
[INFO] Roll Number Deleted Successfully.
-----
Choose The Task that you want to perform
1. Add the Student Details From Text File
2. Add the Student Details Manually
3. Find the Student Details by Roll Number
4. Find the Student Details by First Name
5. Find the Student Details by Course Id
6. Find the Total number of Students
7. Delete the Students Details by Roll Number
8. Update the Students Details by Roll Number
9. Show all information
0. Exit
Enter your choice to perform the task: 9
```

```
-----  
All Students Info  
  
Student first name: Bolis  
Student last name: Karam  
Student roll number: 3  
Student GPA: 3.50  
Course 1 ID: 45  
Course 2 ID: 21  
Course 3 ID: 55  
Course 4 ID: 18  
Course 5 ID: 46  
  
-----  
Student first name: Kerolos  
Student last name: Shenoda  
Student roll number: 4  
Student GPA: 2.80  
Course 1 ID: 45  
Course 2 ID: 21  
Course 3 ID: 55  
Course 4 ID: 18  
Course 5 ID: 46  
  
-----  
Student first name: Ahmed  
Student last name: Aseel  
Student roll number: 2  
Student GPA: 3.30  
Course 1 ID: 1  
Course 2 ID: 2  
Course 3 ID: 3  
Course 4 ID: 4  
Course 5 ID: 5  
  
-----
```