

Second project



Mastering Embedded System Online Diploma

Student Database



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When the program starts, this menu appears to the user, and he must choose one of these options.

```
=====
```

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: ↓

Option 1: Add student from file:

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 1

[INFO] Student Details is added successfully

[INFO] The total number of student is: 1

[INFO] You can add up to 55 students

[INFO] You can add 54 more students

[INFO] Student Details is added successfully

[INFO] The total number of student is: 2

[INFO] You can add up to 55 students

[INFO] You can add 53 more students

[INFO] Student Details is added successfully

[INFO] The total number of student is: 3

[INFO] You can add up to 55 students

[INFO] You can add 52 more students

[INFO] Student Details is added successfully

[INFO] The total number of student is: 4

[INFO] You can add up to 55 students

[INFO] You can add 51 more students

[ERROR] Roll number (1) is already taken

[INFO] Student Details is NOT added successfully

[INFO] The total number of student is: 4

[INFO] You can add up to 55 students

[INFO] You can add 51 more students

[INFO] Student Details is added successfully

[INFO] The total number of student is: 5

[INFO] You can add up to 55 students

[INFO] You can add 50 more students

```
C:\Users\Abdullah Mohamed\OneDrive\Desktop\Mastering-Embedded-Systems\unit_5_FINAL_1st_TERM\DATA_BASE_...
File Edit Selection Find View Goto Tools Project Preferences Help
student_data.txt x driver.o x main.o x Setup.log x
1 1 Abdullah Mohamed 3.5 2 4 6 2 8
2 2 Sara Hany 3.4 1 5 9 10 2
3 3 Youssef Samy 3.6 10 11 2 5 17
4 4 Gorge Anies 3.6 10 3 2 6 8
5 1 Asmaa Ahmed 3.2 1 5 9 2 6
6 5 Alaa Saed 3 1 4 5 7 2
27 characters selected master 5 Tab Size: 4 Plain Text
```

Note that Asmaa has the same roll number as Abdullah, so Asmaa was not registered.

Option 2: Add student manually:

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 2

Enter The Roll Number: 10

Enter The First Name of student: Fahd

Enter The Last Name of student: Ahmed

Enter The GPA you obtained: 3.6

Enter The Course ID of each course

Course 1 ID: 10

Course 2 ID: 2

Course 3 ID: 4

Course 4 ID: 22

Course 5 ID: 3

[INFO] Student Details is added successfully

[INFO] The total number of student is: 6

[INFO] You can add up to 55 students

[INFO] You can add 49 more students

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 2

Enter The Roll Number: 1

Enter The First Name of student: Fahd

Enter The Last Name of student: Ahmed

Enter The GPA you obtained: 3.6

Enter The Course ID of each course

Course 1 ID: 10

Course 2 ID: 2

Course 3 ID: 4

Course 4 ID: 22

Course 5 ID: 3

[ERROR] Roll number (1) is already taken

[INFO] Student Details is NOT added successfully

[INFO] The total number of student is: 6

[INFO] You can add up to 55 students

[INFO] You can add 49 more students

Note that Fahd was registered successfully when his registration roll number was 10 because no student registered on the list had the roll number 10,

But when he was registered using the roll number 1, the registration was not successful because the roll number 1 was previously taken for Abdullah.

Option 3: Find a student by his Roll number:

List

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 3

Enter your Roll Number of the student: 5
The Students Details are
The First Name is Alaa
The Last Name is Saed
The GPA is 3.000000
Enter the course of each course
Course ID are: 1
Course ID are: 4
Course ID are: 5
Course ID are: 7
Course ID are: 2

When searching for the student whose registration number is 5, he was found, and all his data was displayed.

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 3

Enter your Roll Number of the student: 22
[ERROR] Roll Number (22) NOT found

While you are searching for registration number 22, no student was found with this number.

Enter your choice to perform the task: 9

The First Name is Abdullah
The Last Name is Mohamed
The Roll number is 1
The GPA is 3.500000
Enter the course of each course
Course ID are: 2
Course ID are: 4
Course ID are: 6
Course ID are: 2
Course ID are: 8

The First Name is Sara
The Last Name is Hany
The Roll number is 2
The GPA is 3.400000
Enter the course of each course
Course ID are: 1
Course ID are: 5
Course ID are: 9
Course ID are: 10
Course ID are: 2

The First Name is Youssef
The Last Name is Samy
The Roll number is 3
The GPA is 3.600000
Enter the course of each course
Course ID are: 10
Course ID are: 11
Course ID are: 2
Course ID are: 5
Course ID are: 17

The First Name is Gorge
The Last Name is Anies
The Roll number is 4
The GPA is 3.600000
Enter the course of each course
Course ID are: 10
Course ID are: 3
Course ID are: 2
Course ID are: 6
Course ID are: 8

The First Name is Alaa
The Last Name is Saed
The Roll number is 5
The GPA is 3.000000
Enter the course of each course
Course ID are: 1
Course ID are: 4
Course ID are: 5
Course ID are: 7
Course ID are: 2

The First Name is Fahd
The Last Name is Ahmed
The Roll number is 10
The GPA is 3.600000
Enter the course of each course
Course ID are: 10
Course ID are: 2
Course ID are: 4
Course ID are: 22
Course ID are: 3

[INFO] The total number of student is: 6
[INFO] You can add up to 55 students
[INFO] You can add 49 more students

Option 4: Find a student by his First Name:

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 4

Enter your First Name of the student: alaa
The Students Details are
The First Name is Alaa
The Last Name is Saed
The Roll number is 5
The GPA is 3.000000
Enter the course of each course
Course ID are: 1
Course ID are: 4
Course ID are: 5
Course ID are: 7
Course ID are: 2

When searching for the student whose First name is Alaa, he is found, and all his data is displayed. If there is more than one student with the same First name, all of them will be displayed.

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 4

Enter your First Name of the student: samy
[ERROR] First Name (samy) NOT found

But when you search for the First name Sami, no student with this First name was found.

Option 5: Find all the students in a specific course:

List

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 5

Enter The Course ID: 3

The Students Details are
The First Name is Gorge
The Last Name is Anies
The Roll number is 4
The GPA is 3.600000

The Students Details are
The First Name is Fahd
The Last Name is Ahmed
The Roll number is 10
The GPA is 3.600000

[INFO] Total Number of students Enrolled: 2

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 5

Enter The Course ID: 10

The Students Details are
The First Name is Sara
The Last Name is Hany
The Roll number is 2
The GPA is 3.400000

The Students Details are
The First Name is Youssef
The Last Name is Samy
The Roll number is 3
The GPA is 3.600000

The Students Details are
The First Name is Gorge
The Last Name is Anies
The Roll number is 4
The GPA is 3.600000

The Students Details are
The First Name is Fahd
The Last Name is Ahmed
The Roll number is 10
The GPA is 3.600000

[INFO] Total Number of students Enrolled: 4

When searching for students enrolled in the course ID 3, 2 students were found, and their data was displayed.

When searching for students enrolled in the course ID 10, 4 students were found, and their data was displayed.

Enter your choice to perform the task: 9

The First Name is Abdullah
The Last Name is Mohamed
The Roll number is 1
The GPA is 3.500000
Enter the course of each course
Course ID are: 2
Course ID are: 4
Course ID are: 6
Course ID are: 2
Course ID are: 8

The First Name is Sara
The Last Name is Hany
The Roll number is 2
The GPA is 3.400000
Enter the course of each course
Course ID are: 1
Course ID are: 5
Course ID are: 9
Course ID are: 10
Course ID are: 2

The First Name is Youssef
The Last Name is Samy
The Roll number is 3
The GPA is 3.600000
Enter the course of each course
Course ID are: 10
Course ID are: 11
Course ID are: 2
Course ID are: 5
Course ID are: 17

The First Name is Gorge
The Last Name is Anies
The Roll number is 4
The GPA is 3.600000
Enter the course of each course
Course ID are: 10
Course ID are: 3
Course ID are: 2
Course ID are: 6
Course ID are: 8

The First Name is Alaa
The Last Name is Saed
The Roll number is 5
The GPA is 3.000000
Enter the course of each course
Course ID are: 1
Course ID are: 4
Course ID are: 5
Course ID are: 7
Course ID are: 2

He will be deleted on the next page.

The First Name is Fahd
The Last Name is Ahmed
The Roll number is 10
The GPA is 3.600000
Enter the course of each course
Course ID are: 10
Course ID are: 2
Course ID are: 4
Course ID are: 22
Course ID are: 3

[INFO] The total number of student is: 6
[INFO] You can add up to 55 students
[INFO] You can add 49 more students

Option 6: Get the total number of students:

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 6

[INFO] The total number of student is: 6
[INFO] You can add up to 55 students
[INFO] You can add 49 more students

[INFO] The total number of student is: 6
[INFO] You can add up to 55 students
[INFO] You can add 49 more students

Option 7: Delete a student by his roll number:

List after delete student

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 7

Enter the Roll Number which you want to delete: 5
[INFO] Student Details is Removed successfully

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 7

Enter the Roll Number which you want to delete: 14
[ERROR] Roll Number (14) NOT found

[INFO] The total number of student is: 5
[INFO] You can add up to 55 students
[INFO] You can add 50 more students

Enter your choice to perform the task: 9

The First Name is Abdullah
The Last Name is Mohamed
The Roll number is 1
The GPA is 3.500000
Enter the course of each course
Course ID are: 2
Course ID are: 4
Course ID are: 6
Course ID are: 2
Course ID are: 8

The First Name is Sara
The Last Name is Hany
The Roll number is 2
The GPA is 3.400000
Enter the course of each course
Course ID are: 1
Course ID are: 5
Course ID are: 9
Course ID are: 10
Course ID are: 2

The First Name is Youssef
The Last Name is Samy
The Roll number is 3
The GPA is 3.600000
Enter the course of each course
Course ID are: 10
Course ID are: 11
Course ID are: 2
Course ID are: 5
Course ID are: 17

The First Name is Gorge
The Last Name is Anies
The Roll number is 4
The GPA is 3.600000
Enter the course of each course
Course ID are: 10
Course ID are: 3
Course ID are: 2
Course ID are: 6
Course ID are: 8

The First Name is Fahd
The Last Name is Ahmed
The Roll number is 10
The GPA is 3.600000
Enter the course of each course
Course ID are: 10
Course ID are: 2
Course ID are: 4
Course ID are: 22
Course ID are: 3

Before
updating.

[INFO] The total number of student is: 5
[INFO] You can add up to 55 students
[INFO] You can add 50 more students

Option 7: Delete a student by his roll number:

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 8

Enter the Roll Number to update the entry: 10

Choose one of the following Options

1. First Name
2. Last Name
3. Roll Number
4. GPA
5. Courses

Enter The New Courses

Course 1 ID: 11

Course 2 ID: 22

Course 3 ID: 33

Course 4 ID: 44

Course 5 ID: 55

[INFO] UPDATED SUCCESSFULLY ;)

Choose one of the following Options

- 1: Add Students data from a file
- 2: Add Students data manually
- 3: Find a student by his roll number
- 4: Find a student by his first name
- 5: Find all the students in a specific course
- 6: Get the total number of students
- 7: Delete a student by his roll number
- 8: Update a student's data
- 9: Show all the students data
- 0: Exit

Enter your choice to perform the task: 3

Enter your Roll Number of the student: 10

The Students Details are

The First Name is Fahd

The Last Name is Ahmed

The GPA is 3.600000

Enter the course of each course

Course ID are: 11

Course ID are: 22

Course ID are: 33

Course ID are: 44

Course ID are: 55

After
updating.

After you choose a Roll number for the student, you can choose anything to update, and it will be updated.

It must be taken into, if a non-existent roll number is entered, a message of apology will appear for not finding the student...

If a request is made to update a student's Roll number with another student's Roll number that already exists, a message of apology will appear for another student taking this number.