# Mastering Embedded System Online Diploma

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## Frist Term  (Final Project 2)

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# Project management system using queue

## Specification of the system:

1. Store the data of students in a fifo data structures
2. Can manage , delete and update the students information
3. Can take the data from the user at run time
4. Can also read data from text file
5. The student id must be unique

## reading data from file with unique id for each student

```
welcome to the student management system
choose the task that you want to perform
1. add the students details manually
2. add the students details from text file
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 the student
 7. delete the student details by roll number
 8. update the student details by roll number
 9. show all informations
10. to exit
 2
[INFO] Roll Number 1 saved successfully
[INFO] Roll Number 2 saved successfully
[INFO] Roll Number 3 saved successfully
[ERROR] IN line 3 : Roll Number is already taken before

End of file.
***********************
[INFO]the total number of students are 3
[INFO]you can add up to 50 students
[INFO]you can add 47 more students
choose the task that you want to perform
1. add the students details manually
2. add the students details from text file
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 the student
 7. delete the student details by roll number
 8. update the student details by roll number
 9. show all informations
10. to exit
```

## data in text  file

```
1 ahmed shawki 3 1 2 3 4 5
2 ahmed gamal 3.2 5 6 7 8 9
3 mohamed shawki 3.5 5 10 11 12 13
```

## displaying information read from file

```
10. to exit
 9
 student number 1 details are
the first name is ahmed
the last name is shawki
the  GPA is 3.000000
the courses id's are
the course ID are 1
the course ID are 2
the course ID are 3
the course ID are 4
the course ID are 5
 count =3
 student number 2 details are
the first name is ahmed
the last name is gamal
the  GPA is 3.200000
the courses id's are
the course ID are 5
the course ID are 6
the course ID are 7
the course ID are 8
the course ID are 9
 count =3
 student number 3 details are
the first name is mohamed
the last name is shawki
the  GPA is 3.500000
the courses id's are
the course ID are 5
the course ID are 10
the course ID are 11
the course ID are 12
the course ID are 13
 count =3
************************
[INFO]the total number of students are 3
[INFO]you can add up to 50 students
[INFO]you can add 47 more students
choose the task that you want to perform
1. add the students details manually
```

# Adding student information manually

```
 5. find the student details by course ID
 6. find the total number of the student
 7. delete the student details by roll number
 8. update the student details by roll number
 9. show all informations
10. to exit
 1
enter the first name
hassan
enter the second name
ali
enter the id of the student
4
enter the GPA of the student
3.5
enter the course id of each course
Course 1 id: 1
Course 2 id: 5
Course 3 id: 9
Course 4 id: 11
Course 5 id: 13
choose the task that you want to perform
1. add the students details manually
2. add the students details from text file
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 the student
 7. delete the student details by roll number
 8. update the student details by roll number
 9. show all informations
10. to exit
```

# displaying  student information by roll number

```
10. to exit
 3
enter the roll number of the student
5
ERROR: the roll number 5 is not exist
choose the task that you want to perform
1. add the students details manually
2. add the students details from text file
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 the student
 7. delete the student details by roll number
 8. update the student details by roll number
 9. show all informations
10. to exit
 3
enter the roll number of the student
4
the students details are
the first name is hassan
the last name is ali
the  GPA is 3.500000
the courses id's are
the course ID are 1
the course ID are 5
the course ID are 9
the course ID are 11
the course ID are 13
choose the task that you want to perform
1. add the students details manually
2. add the students details from text file
```

```
 4
enter the first name of the student
ahmed
the students details are
the first name is ahmed
the last name is shawki
the  GPA is 3.000000
the courses id's are
the course ID are 1
the course ID are 2
the course ID are 3
the course ID are 4
the course ID are 5
the students details are
the first name is ahmed
the last name is gamal
the  GPA is 3.200000
the courses id's are
the course ID are 5
the course ID are 6
the course ID are 7
the course ID are 8
the course ID are 9
ERROR: this name (ahmed) is not exist
choose the task that you want to perform
1. add the students details manually
2. add the students details from text file
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 the student
 7. delete the student details by roll number
 8. update the student details by roll number
 9. show all informations
10. to exit
```

```
5
the first name is ahmed
the last name is shawki
the  GPA is 3.000000
the courses id's are
the first name is ahmed
the last name is gamal
the  GPA is 3.200000
the courses id's are
the first name is mohamed
the last name is shawki
the  GPA is 3.500000
the courses id's are
the first name is hassan
the last name is ali
the  GPA is 3.500000
the courses id's are
total number of students enrolled: 4
choose the task that you want to perform
1. add the students details manually
2. add the students details from text file
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 the student
 7. delete the student details by roll number
 8. update the student details by roll number
 9. show all informations
10. to exit
 5
enter the course id
1
the first name is ahmed
the last name is shawki
the  GPA is 3.000000
the courses id's are
the first name is hassan
the last name is ali
the  GPA is 3.500000
the courses id's are
total number of students enrolled: 2
```

## displaying  number of students  in the system

```
choose the task that you want to perform
1. add the students details manually
2. add the students details from text file
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 the student
 7. delete the student details by roll number
 8. update the student details by roll number
 9. show all informations
10. to exit
 6
***********************
[INFO]the total number of students are 4
[INFO]you can add up to 50 students
[INFO]you can add 46 more students
choose the task that you want to perform
1. add the students details manually
2. add the students details from text file
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 the student
 7. delete the student details by roll number
 8. update the student details by roll number
 9. show all informations
10. to exit
```

## updating  student_information in the system

```
 8. update the student details by roll number
 9. show all informations
10. to exit
 8
enter the roll number to update the entry
1
1. firstname
 2. lastname
 3. roll no
 4. GPA
 5. courses
4
enter the new GPA
4
choose the task that you want to perform
1. add the students details manually
2. add the students details from text file
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 the student
 7. delete the student details by roll number
 8. update the student details by roll number
 9. show all informations
10. to exit
 9
 student number 1 details are
the first name is ahmed
the last name is shawki
the  GPA is 4.000000
the courses id's are
the course ID are 1
the course ID are 2
the course ID are 3
the course ID are 4
the course ID are 5
```