DEPARTMENT OF BASIC SCIENCE AND HUMANITITES ,INSTITUTE OF ENGINEERING AND MANAGEMENT,KOLKATA

"STUDENT EXAMINATION PORTAL"

Submitted by:-

Name of the Student: Debojyoti Mondal
EnrolmentNumber:12022002004026

Section:J
ClassRollNumber:32
Stream:Information Technology Subject:
Programming for Problem Solving
Subject Code:IVC-101
Department: Basic Science and Humanities(BSH)

Under the supervision of:-
Prof.SwarnenduGhosh

AcademicYear:2022-26
(PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE FIRST SEMESTER)

CERTIFICATE OF RECOMMENDATION

We hereby recommend that the project prepared under our supervision by Debojyoti Mondal entitled **"Student Examination Portal"** be accepted in partial fulfilment of the first semester.

Head of the Department
of Basic Sciences and Humanities
IEM,Kolkata

Project Supervisor

1. Introduction:-

This project is assigned to us for developing a report card of student's examinations with the help of basic python programming language.

1.1 Objective:

The basic aim of the project is to create student examination portal where we need to put up basic student details and there by with the help of a python programming,we have to create a report card by maintaining separate CSV files for the student,course,batch, departmentand examination.

1.2 Organizationofthe Project:

The project is organised into 5 different module,namely:-

- STUDENT:We have to create a student with the help of his/her basic details *vis.* student ID, name, roll number and batch name and then generate a reportcard showing percentage, grades in each subject and whether he have passedorfailed.

- COURSE:After this,we have to create a new course with details *vis.* his/her course ID, course name and marks obtained followed by his/her performance in that course and course stats with the help of a histogram.

- BATCH: Now we are to create a new batch providing details *vis.* batch ID,batch name, department name, list of courses and list of students followed by viewing all students, all courses taught, complete performance of all the students and course stats with the help of a pie chart containing all the percentages.

- DEPARTMENT:Now we have to create a new department with details *vis.* department ID, department name and list of batches followed by a clear picture of all the batches in the department, average performance of all the batches in the department and department stats with the help of a line plot.

- EXAMINATION: Lastly, we are done with entering marks of all students in the examination, performance of all students in the examination and finally displaying examination stats with the help of a scatterplot.

2. Data base Descriptions:-

The data base used in the project is CSV files.

A CSV (Comma Separated Value) file is a type of plain text file that uses specific structure to arrange tabular data. Because its a plain text file, it can contain only actual text data—in other words, printable ASCIIor Unicode characters.The structure of a CSV file is given away by its name.Normally,CSV files use a comma to separate each specific data value.

2.1 DatabaseSamples:

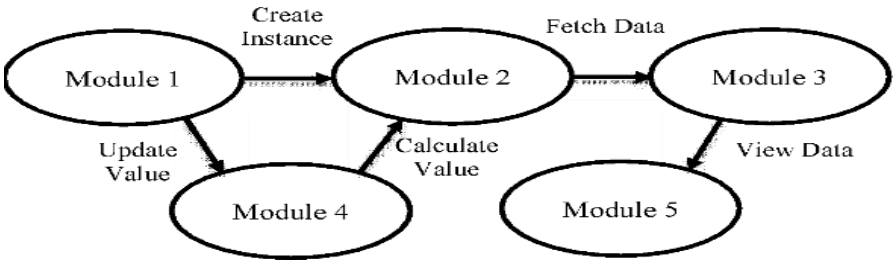
CSV sample of 1st module:--

Students.csv

	A	B	C	D
1	IEM_01	Purnendu Barick	1	CSE
2				
3	IEM_02	Priyanshu Karmakar	2	CSE-AIML
4				
5	IEM_03	Anusmita Biswas	3	CSE-IOT
6				
7	IEM_04	Abhirup Banerjee	4	CSE-CSBS
8				
9	IEM_05	Paban Sadhu	5	EEE
10				
11	IEM_06	Prangan Basak	6	EE
12				
13	IEM_07	Sayani Saha	7	IT
14				
15	IEM_08	Siraj-ud-din Sk.	8	ME
16				
17	IEM_09	Sneha Saha	9	ECE
18				
19	IEM_10	Bhaskar Chowdhury	10	CE
20				
21	IEM_11	Tushar Bose	11	Robotics and Artificial Communication

3. Data Flow and E-R Diagrams:-

Demonstrates the dependency of all the python modules written using a data flow diagram.



4. Programs:-

Python program of 1st module:--

Students Examination Portal.py

```
importcsv
student_fields = ['Student ID', 'Name', 'Class Roll Number', 'Batch
Name']student_database='students.csv'


defdisplay_menu():
    print("
    ..................................................")
    print("Student Examination
    Portal.")print("
    ..................................................")
    print("1.AddNewStudent")print("2.Vie
    w Students")print("3.Update
    Student")print("4.Delete
    Student")print("5.Calculate
    Grade")print("6.Quit")


defadd_student():
    print("AddStudentInformation:")p
    rint("
    ..................................................")
    globalstudent_fields
    globalstudent_databases
    tudent_data=[]
    forfieldinstudent_fields:
        value = input("Enter " + field + ":
        ")student_data.append(value)
    withopen(student_database,"a",encoding="utf-
        8")asf:writer=csv.writer(f)writer.writerows([student
        _data])
    print("Datasavedsuccessfully!")in
    put("Pressentertocontinue.")
```

```
    global
    student_fieldsglobalstuden
    t_database
    print("--- Student Records: ---
    ")print("___________________________")
    with open(student_database, "r", encoding="utf-8") as
        f:reader=csv.reader(f)
        for x in
            student_fields:print
            (x,end='\t|')
        print("\n_______________________________________________________________________________
_____")
        for row in
            reader:foritemin
            row:
                print(item,
            end="\t|")print("\n")
    input("Press entertocontinue.")


defupdate_student():global
    student_fieldsglobalstu
    dent_database
    print("--- Update Student: ---
    ")print("__________________________")
    roll = input("Enter Student ID to update:
    ")index_student=None
    updated_data=[]
    with open(student_database, "r", encoding="utf-8") as
        f:reader=csv.reader(f)
        counter =0
        forrowinreader:iflen
            (row)>0:
                if roll ==
                    row[0]:index_student=co
                    unter
                    print("Student found at index ",
                    index_student)student_data=[]
                    forfieldinstudent_fields:
                        value = input("Enter " + field + ":
                        ")student_data.append(value)
                    updated_data.append(student_data)
                else:
                    updated_data.append(row)
                counter+=1
    ifindex_studentisnot None:
        with open(student_database, "w", encoding="utf-8") as
            f:writer=csv.writer(f)writer.writerows(updated_data)
        print("Student ID", roll, "updated
```

```
successfully!")else:
    print("StudentIDnotfoundinourdatabase!")
```

```
    input("Press entertocontinue.")


defdelete_student():global
    student_fieldsglobalstu
    dent_database
    print("--- Delete Student: ---
    ")print("..................................")
    roll = input("Enter Student ID to delete:
    ")student_found=False
    updated_data=[]
    with open(student_database, "r", encoding="utf-8") as
        f:reader=csv.reader(f)
        counter =0
        forrowinreader:iflen
            (row)>0:
                if roll !=
                    row[0]:updated_data.appe
                    nd(row)counter+=1
                else:
                    student_found =
    Trueifstudent_foundisTrue:
        with open(student_database, "w", encoding="utf-8") as
            f:writer=csv.writer(f)writer.writerows(updated_data)
        print("Student ID", roll, "deleted
    successfully!")else:
        print("Student ID not found in our
    database!")input("Pressentertocontinue.")


defsearch_student():global
    student_fieldsglobalstu
    dent_database
    print("--- Search Student: ---
    ")print("..................................")
    roll=input("EnterStudentIDtosearch:")
    with open(student_database, "r", encoding="utf-8") as
        f:reader=csv.reader(f)
        forrowinreader:iflen
            (row)>0:
                ifroll== row[0]:
                    print("Student found with the following
                    details...")print("StudentID:",row[0])
                    print("Name:",row[1])
                    print("Class Roll Number: ",
                    row[2])print("BatchName:",row[3])gra
                    de()
                    break
```

```
        else:
            print("Student ID not found in our
    database!")input("Pressentertocontinue.")


defgrade():
    print("Enter marksoutof100:")
    m1 = int(input("Enter marks in 1st subject:
    "))m2 = int(input("Enter marks in 2nd subject:
    "))m3 = int(input("Enter marks in 3rd subject:
    "))m4 = int(input("Enter marks in 4th subject:
    "))m5 = int(input("Enter marks in 5th subject:
    "))tmarks=m1+m2+m3+m4+m5
    per             =
    (tmarks)//5ifper>
    =90:
        print("Total marks = ", tmarks, "\nPercentage =
              ",per,"\nGrade=A\nStatus:Passed!")
    elifper>=80andper<90:
        print("Total marks = ", tmarks, "\nPercentage =
              ",per,"\nGrade=B\nStatus:Passed!")
    elifper>=70andper<80:
        print("Total marks = ", tmarks, "\nPercentage =
              ",per,"\nGrade=C\nStatus:Passed!")
    elifper>=60andper<70:
        print("Total marks = ", tmarks, "\nPercentage =
              ",per,"\nGrade=D\nStatus:Passed!")
    elifper>=50andper<60:
        print("Total marks = ", tmarks, "\nPercentage =
              ",per,"\nGrade=E\nStatus:Passed!")
    else:
        print("Total marks = ", tmarks, "\nPercentage =
              ",per,"\nGrade=F\nStatus:Failed!")


whileTrue:
    display_menu()
    choice = input("Enter your choice:
    ")ifchoice=='1':
        add_student()el
    ifchoice=='2':
        view_students()
    elifchoice=='3':
        update_student()
    elifchoice=='4':
        delete_student()
    elifchoice=='5':
        search_student()
    else:
```

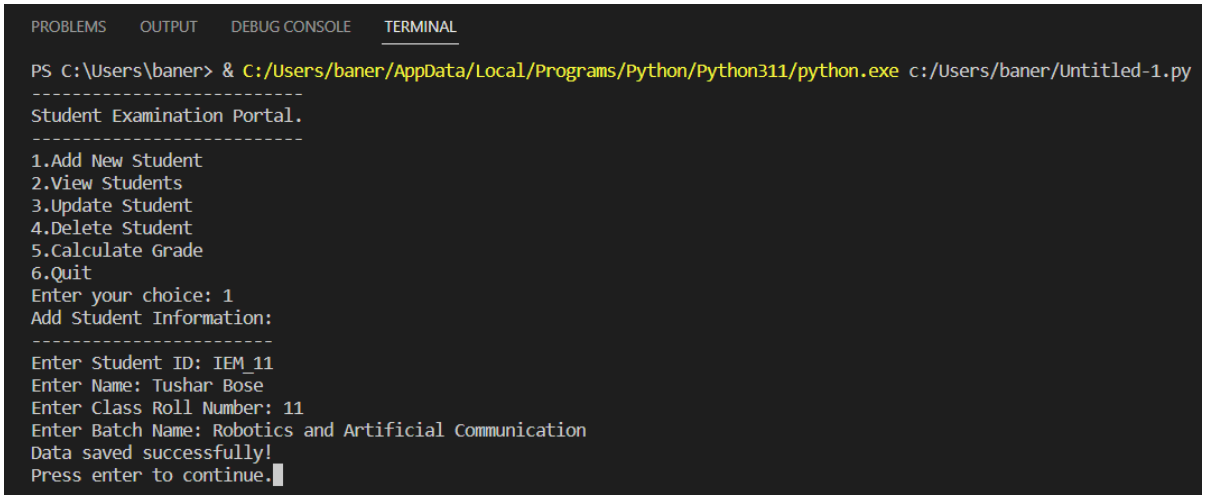
```
break
```

```
print("
                                                              ")
print("Thank    you    for    using    our
```

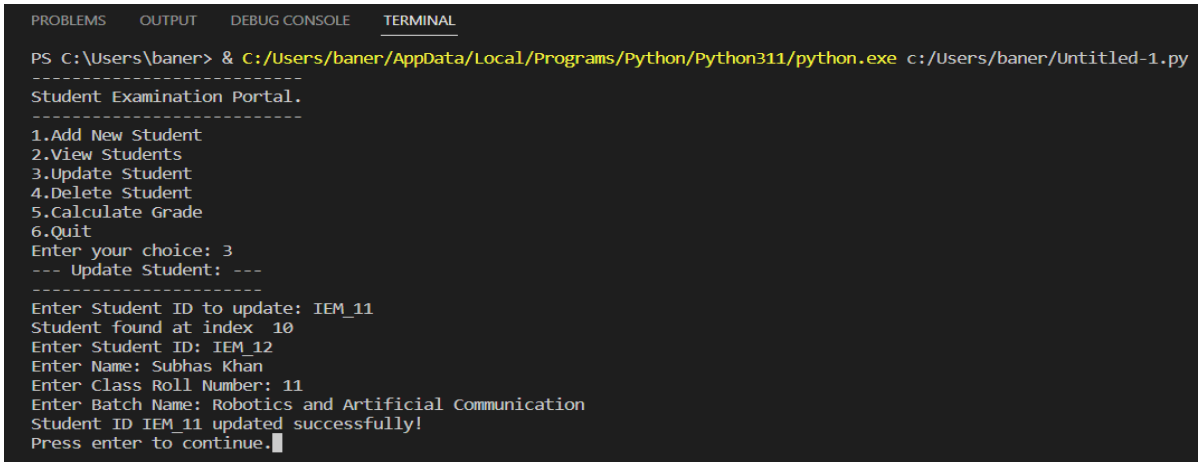
5. Outputs:-

Sample outputs(screenshot)to demonstrate the functions in programs.

1. Creating a student using StudentID,Name,Class Roll Number and Batch Name.



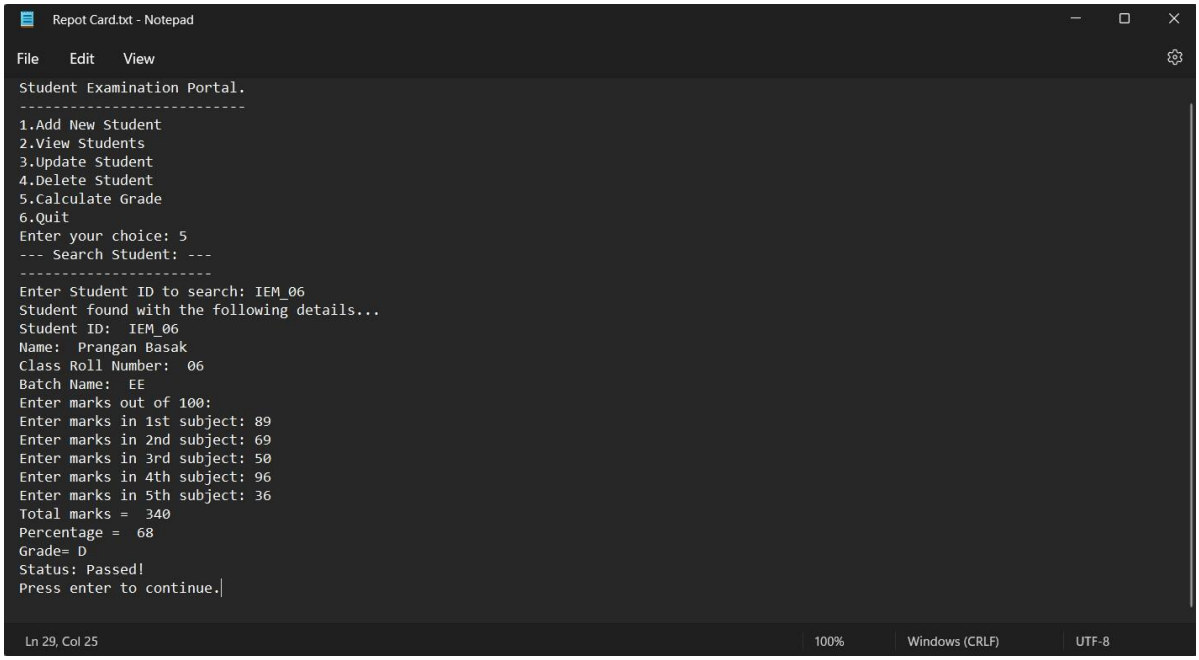
2. Updating student details.



3. Removing a student from the database.

```
PS C:\Users\baner> & C:/Users/baner/AppData/Local/Programs/Python/Python311/python.exe c:/Users/baner/Untitled-1.py
---------------------------
Student Examination Portal.
---------------------------
1.Add New Student
2.View Students
3.Update Student
4.Delete Student
5.Calculate Grade
6.Quit
Enter your choice: 4
--- Delete Student: ---
----------------------
Enter Student ID to delete: IEM_12
Student ID IEM_12 deleted successfully!
Press enter to continue.
```

4. Generating a report card(text file)of student showing percentage, grade in each subject and whether he passed or failed with all the marks uploaded.



THANKYOU!!