MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION, MUMBAI

GOVERNMENT POLYTECHNIC KARAD

THIRD YEAR DIPLOMA COMPUTER ENGINEERING (I-SCHEME)

PART [B]

MICRO-PROJECT REPORT

"STUDENT MANAGEMENT SYSTEM"

UNDER THE SUBJECT

PROGRAMMING WITH PYTHON (22616)

SUBMITTED BY

Sr.no	Roll No	Enrollment No	Name of Team Member
1.	2251	2100100053	Pratik Pramod Shejwal
2.	2254	2100100056	Shravani Bharat Mahajan
3.	2260	2100100063	Riya Sunil Kharade

UNDER THE GUIDANCE

Mr. S.P.Emekar

(DEPARTMENT OF COMPUTER ENGINEERING)

2023-24

MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION, MUMBAI.

Certificate of completion

Of Micro-project Assessment at the end of Semester

This is to certify that,

Sr.no	Roll No	Enrollment No	Name of Team Member
1.	2251	2100100053	Pratik Pramod Shejwal
2.	2254	2100100056	Shravani Bharat Mahajan
3.	2260	2100100063	Riya Sunil Kharade

Has successfully completed **"Student Management System "** Micro-project of the sixth semester Diploma in Computer Engineering of subject Programming With Python (22616) from Government Polytechnic Karad. Institute with Institute code (0010).

Mr.S.P.Emekar   Prof. S. B. Patil   Dr K.M.Bagwan

(Project Guide)   (Head of the department.)   (Head of Institute)

Seal of the institute

ACKNOWLEDGEMENT

We take this opportunity to thank all those who have directly and indirectly inspired, directed and assisted us towards successfully completion of this project report.

We express our sincere thanks to Dr K.M.Bagwan Principal of Government Polytechnic, Karad and the Head of Department Prof. Patil S.B, for having us allowed to submit this report as a part of our academic learning.

We express our sincere thanks to Mr.S.P.Emekar Lecturer in Computer Engineering, Govt. Polytechnic, Karad for encouragement throughout the project report and guideline in designing and working out this project. We are also grateful to team of project .

Place: Government polytechnic Karad

Date: 24/3/2023

Yours Sincerely,

2251-Pratik Pramod Shejwal

2254-Shravani Bharat Mahajan

2260-Riya Sunil Kharade

➤ RATIONALE:

Student Record System is application which is helpful for students as well as college authorities in the current system all the activities are done manually. It is very time consuming and costly Our Student Record System deals with the various activities related to the students. We created project for storing all student's information in which student name, student roll number, total fees and contact number. various features include like add, update, delete, search, edit.

➤ AIM AND BENEFITS:

◉ AIM:

1) Make Things Easier:

We want to make life easier by automating tasks like keeping student records, saving time and money.

2) Keep Things Organized:

Our goal is to have a system that keeps all student info in one place, making it easy to find and update when needed.

◉ BENEFITS:

1) Stay Organized:

With everything in one place, it's easier to keep track of students and their details, saving time and avoiding confusion.

2) Save Time and Effort:

By automating tasks, staff can spend less time on paperwork and more time on important things, like helping students succeed.

➤ COURSE OUTCOMES:

CO A] Display message on screen using python script on IDE.

CO B] Develop python program to demonstrate use of Operators.

CO C] Perform operations on data structures in python

CO D] Develop Functions for given Problem.

CO E] Design classes for given problem.

CO F) Handle exceptions.

➢ LITERATURE REVIEW:

1. We referred book, Book Name is "Core Python Programming" by Dr. R. Nageswara Rao

2. We referred following link:
    a) https://www.w3schools.com/python/python_intro.asp
    b) https://www.geeksforgeeks.org/file-handling-python/
    c) https://purpletutor.com/coding/basic-concepts-python/

➢ ACTUAL PROPOSED METHODOLOGY

1. Discussion about given topic.
2. Selection of good leader and distribution of responsibilities.
3. We have studies about actual working of Student Management System.
4. We will decide console-based application for Student Management System
5. Develop program using Python.
6. Presentation of given report.
7. Completion and submission of given tasks

➢ ACTUAL RESOURCES REQUIRED:

Sr.no	Name of Resources	Specification	Quantity
1	Computer System	At least 128MB RAM	1
2	Software	Python IDLE	1
3.	Internet	4G, Wi-Fi	-
4.	Book	We referred book, Book Name is "Core Python Programming" by Dr. R. Nageswara Rao	1
2.	Ms Word	Microsoft Word 2021 MSO 64 bit	-

1. PROGRAM CODE:

```python
class Student:
    def __init__(self, roll_no, name, fee, contact_no):
        self.roll_no = roll_no
        self.name = name
        self.fee = fee
        self.contact_no = contact_no

def display(students):
    print("\n ----------Student List---------- \n")
    print("Roll_No. Name        Fee      Contact-no")
    for student in students:
        print(f"{student.roll_no:<10}      {student.name:<15}      {student.fee:<10}
{student.contact_no:<15}")
    print("\nTotal Count of registered Students:", len(students))

def save_students(filename, students):
    with open(filename, "w") as file:
        for student in students:

file.write(f"{student.roll_no},{student.name},{student.fee},{student.contact_no}\
n")


def load_students(filename):
    students = []
    try:
        with open(filename, "r") as file:
            for line in file:
                roll_no, name, fee, contact_no = line.strip().split(',')
                students.append(Student(int(roll_no), name, float(fee), int(contact_no)))
    except FileNotFoundError:
        # If file not found, create an empty file
        open(filename, 'w').close()
    return students

def is_roll_no_unique(students, roll_no):
    for student in students:
        if student.roll_no == roll_no:
            return False
    return True

def main():
    students = load_students("student_records.txt")
```

```python
while True:
    print("\n**********Welcome to the Student Registration**********\n")
    print("1) Register new student\n"
          "2) Search for Student\n"
          "3) Edit Student details\n"
          "4) Delete Student record\n"
          "5) Display all registered Students\n"
          "6) Exit\n")
    choice = input("Enter your choice: ")

    if choice == "1":
        print("\nEnter the following details to register:\n")
        while True:
            roll_no = int(input("Enter Roll No.: "))
            if is_roll_no_unique(students, roll_no):
                break
            else:
                print("Roll number already exists. Please enter a unique roll number.")

        name = input("Enter Name of Student: ").strip()
        fee = float(input("Enter Fees: "))
        contact_no = int(input("Enter Contact No.: "))
        students.append(Student(roll_no, name, fee, contact_no))
        display(students)

    elif choice == "2":
        roll_no = int(input("Enter student roll no. to search: "))
        found = False
        for student in students:
            if roll_no == student.roll_no:
                print(f"\nStudent      Details:\nRoll_No.:     {student.roll_no}\nName: {student.name}\nFee: {student.fee}\nContact No: {student.contact_no}")
                found = True
                break
        if not found:
            print("\nStudent Details are not available, Please enter a valid Roll No.!!")

    elif choice == "3":
        roll_no = int(input("\nEnter the student Roll No. to EDIT the details: "))
        found = False
        for student in students:
            if roll_no == student.roll_no:
                found = True
                print("\nEdit student Details: ")
                print("1)Student Roll no.")
                print("2)Student Name")
                print("3)Contact No.")
                print("4)GO BACK")
                ch = input("Enter your choice: ")
```

```python
            if ch == "1":
                student.roll_no = int(input("\nEnter new Student Roll No.: "))
            elif ch == "2":
                student.name = input("Enter new Student Name: ")
            elif ch == "3":
                student.contact_no = int(input("Enter new Student Contact No.: "))
            elif ch == "4":
                break
            else:
                print("\nEnter the correct choice:")
        if not found:
            print("\nStudent Details are not available, Please enter a valid Roll No.!!")

    elif choice == "4":
        roll_no = int(input("\nEnter Student Roll No.to DELETE the record: "))
        found = False
        for student in students:
            if roll_no == student.roll_no:
                students.remove(student)
                display(students)
                found = True
                break
        if not found:
            print("\nStudent Details are not available, Please enter a valid Roll No.!!")

    elif choice == "5":
        display(students)

    elif choice == "6":
        save_students("student_records.txt", students)
        print("\nYou have chosen Exit!! saving the Files and closing tool.\nThank
You!!")
        break

    else:
        print("\nEnter a correct choice from the List:")

if __name__ == "__main__":
    main()
```

2. OUTPUT

```
**********Welcome to the Student Registration**********

1) Register new student
2) Search for Student
3) Edit Student details
4) Delete Student record
5) Display all registered Students
6) Exit

Enter your choice: 1

Enter the following details to register:

Enter Roll No.: 1
Enter Name of Student: Riya
Enter Fees: 10000
Enter Contact No.: 8275005788

   ----------Student List----------

Roll_No.  Name            Fee        Contact-no
1           Riya          10000.0    8275005788

Total Count of registered Students: 1
```

```
**********Welcome to the Student Registration**********

1) Register new student
2) Search for Student
3) Edit Student details
4) Delete Student record
5) Display all registered Students
6) Exit

Enter your choice: 3

Enter the student Roll No. to EDIT the details: 2

Edit student Details:
1)Student Roll no.
2)Student Name
3)Contact No.
4)GO BACK
Enter your choice: 3
Enter new Student Contact No.: 9876543223
```

```
**********Welcome to the Student Registration**********

1) Register new student
2) Search for Student
3) Edit Student details
4) Delete Student record
5) Display all registered Students
6) Exit

Enter your choice: 2
Enter student roll no. to search: 1

Student Details:
Roll_No.: 1
Name: Riya
Fee: 10000.0
Contact No: 8275005788
```

```
**********Welcome to the Student Registration**********

1) Register new student
2) Search for Student
3) Edit Student details
4) Delete Student record
5) Display all registered Students
6) Exit

Enter your choice: 5

   ----------Student List----------

Roll_No.  Name            Fee        Contact-no
1         Riya            10000.0    8275005788
2         Shravani        7000.0     9876543223

Total Count of registered Students: 2
```

```
**********Welcome to the Student Registration**********

1) Register new student
2) Search for Student
3) Edit Student details
4) Delete Student record
5) Display all registered Students
6) Exit

Enter your choice: 6

You have chosen Exit!! saving the Files and closing tool.
Thank You!!
```

```
**********Welcome to the Student Registration**********

1) Register new student
2) Search for Student
3) Edit Student details
4) Delete Student record
5) Display all registered Students
6) Exit

Enter your choice: 4

Enter Student Roll No.to DELETE the record: 2

   -----------Student List----------

Roll_No.  Name              Fee        Contact-no
1           Riya            10000.0    8275005788

Total Count of registered Students: 1
```
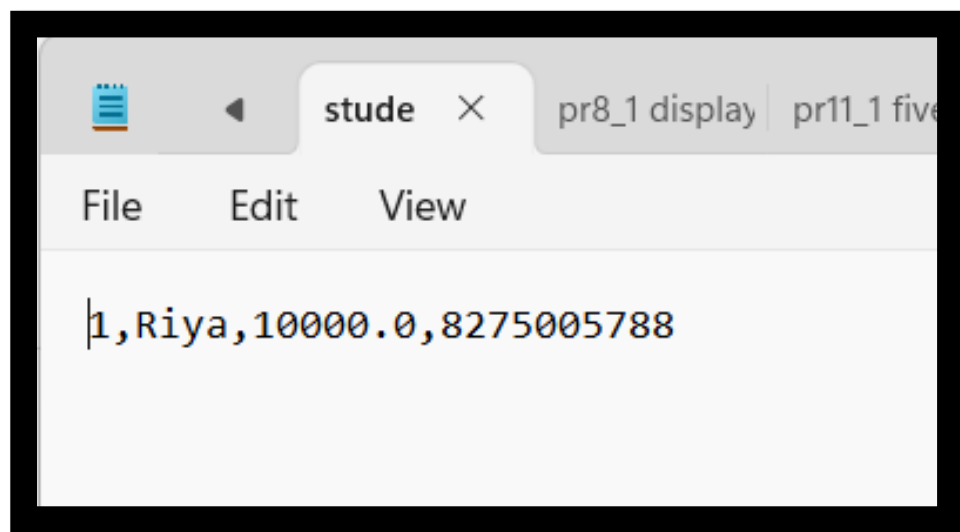
- **FILE HANDLING OUTPUT:**

➢ SKILL DEVELOPED/ LEARNING OUT OF THIS MICRO-PROJECT

1. Improving logical thinking and Programming Skills.
2. Importance of File handling.
3. Efficient communication skills.
4. Working as a team member for developing program.
5. Developing leadership qualities.

➢ APLLICATION OF MICROPROJECT:

1. Student data management:

Centralized database for efficient access and updates of personal, academic, and enrollment informations.

2. Academic performance tracking:

Monitor student progress, identify needs, and acknowledge achievements for better support.

3. Admission process automation:

Simplify admissions with online applications, data storage, and seamless academic journey management.

4. Fee management:

Track payments and manage financial transactions for administrative ease.

➢ CONCLUSION OF MICROPROJECT:

The conclusion of a student management system micro project demonstrates the successful creation of an efficient platform for managing student data, including adding, editing, deleting, and displaying student details. This system improves data management, enhances administrative efficiency, ensures data accuracy, and facilitates better communication within educational institutions.

➢ References:

1. We referred book, Book Name is "Core Python Programming" by Dr. R. Nageswara Rao
2. We referred following link:

   a) https://www.w3schools.com/python/python_intro.asp
   b) https://www.geeksforgeeks.org/file-handling-python/
   c) https://purpletutor.com/coding/basic-concepts-python/