ALL SAINT'S CHURCH SR.SEC. SCHOOL

M.I. ROAD , JAIPUR

A PROJECT REPORT ON

SCHOOL MANAGEMENT SYSTEM

SUBJECT: INFORMATICS PRACTICES (065)

Session: 2023-2024

SUBMITTED BY-

Mohd. Shayyan

SUBMITTED TO-

Mrs. Sharon Hiskiel

CERTIFICATE

This is to certify that Mohd. Shayyan of class XII SCIENCE has sucessfully completed the project on the topic School Management System, In Partial fulfilment of the requirement for the AISSCE Partal Examination of the subject code Informatics Practices(065).

The project work reported here is as per the guidelines of CBSE for AISSCE Practical Examination and it s done under the supervision Mrs. Sharon Hiskiel, PGT COMPUTER. The project work, carried out by Mohd.Shayyan is not a form of any other project work.

Internal Examiner **Principal**

External Examiner **School Seal**

ACKNOWLEDGMENT

I would like to express my special thanks to my teacher Mrs. Sharon Hiskiel for mentoring me throughout this project work. I also thank our respected principal Mrs. Shabnam Haque for her motivation and guidance throughout the year.

My project is titled as "School Management System" and it has enabled me to do a lot of research and I came to Know about so many new things in software design and development.

Also, I would also like to thank my parents who motivated and supported me during my work.

Mohd. Shayyan

XII SCIENCE

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PYTHON INTRODUCTION

Python is a general purpose, dynamic, high-level, and interpreted programming language. Python is a high level language. It is a free and open source language. It is an interpreted language, as python programs are executed by an interpreter. Pandas is a software library written for the Python programming language for data manipulation and analysis. In particular, it offers data structures and operations for manipulating numerical tables and time series.

It is used For:

- **Web Development(Server-side)**
- **Software Development**
- **Mathematics**
- **System Scripting**

PANDAS INTRODUCTION

- **Pandas is a Python library used for working with data sets.**
- **It has functions for analyzing, cleaning, exploring, and manipulating data.**
- **The name "Pandas" has a reference to both "Panel Data", and "Python Data Analysis" and was created by Wes McKinney in 2008.**
- **Pandas can clean messy data sets, and make them readable and relevant.**
- **Relevant data is very important in data science.**
- **Pandas are also able to delete rows that are not relevant, or contains wrong values, like empty or NULL values. This is called cleaning the data.**

MATPLOTLIB INTRODUCTION

Matplotlib is an amazing visualization library in Python for 2D plots of arrays. Matplotlib is a multi-platform data visualization library built on NumPy arrays and designed to work with the broader SciPy stack. It was introduced by John Hunter in the year 2002. One of the greatest benefits of visualization is that it allows us visual access to huge amounts of data in easily digestible visuals. Matplotlib consists of several plots like line, bar, scatter, histogram, etc.

Matplotlib comes with a wide variety of plots. Plots help to understand trends, and patterns, and to make correlations. They're typically instruments for reasoning about quantitative information.

MySQL INTRODUCTION

MySQL is a relational database management system(RDBMS) developed by Oracle that is based on structured query language(SQL).

A database is a structured collection of data.It may be anything from a simple shopping list to a picture gallery or a place to hold the vast amounts of information in a corporate network.In particular,a reletional database is a digital store collecting data and organizing it according to the relational modal. In this modal,tables consist of rows and columns and relationship between data elements all follow a strict logical structure. An RDBMS is simply te set of software tools used to actually implement,manage and query such a database

PROJECT INTRODUCTION

The "School Management System" created by me is based on PYTHON AND MYSQL.

Its an automation of the existing system which enables its user to perform few operations pertaining to management of School as listed below.

The Project Enables its user to:

1.) Add new Student, new Staff and new Fee records.

2.) Delete Student, Staff and Fee records.

3.) Update Student, Staff and Fee records.

4.) View Student, Staff and Fee records from the Database.

System Requirements

----------|Hardware Requirements |----------

Processor-	**Intel(R) Core(TM) i5 7300U CPU 2.60GHz 2.71 GHz**
Installed memory[RAM]-	**8.00 GB (7.88 GB usable)**
System Type-	**64-bit operating system, X64-based processor**
Pen and Touch-	**No pen or touch input is Available for this display**

INTRODUCTION OF PROJECT

PROJECT TITLE-“SCHOOL MANAGEMENT”

DBMS: MySQL

Host : localhost

User: root
Password: root
Database: School

Table Structure: As per the Screenshot given below:

Screenshots OF PROJECT

Student table has following Schema

```
mysql> desc students;
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| Id         | int(11)      | NO   | PRI | NULL    |       |
| name       | varchar(255) | YES  |     | NULL    |       |
| age        | int(11)      | YES  |     | NULL    |       |
| gender     | varchar(255) | YES  |     | NULL    |       |
| Class      | varchar(255) | YES  |     | NULL    |       |
| date_added | varchar(255) | YES  |     | NULL    |       |
+------------+--------------+------+-----+---------+-------+
6 rows in set (0.01 sec)
```

Staff table has following Schema

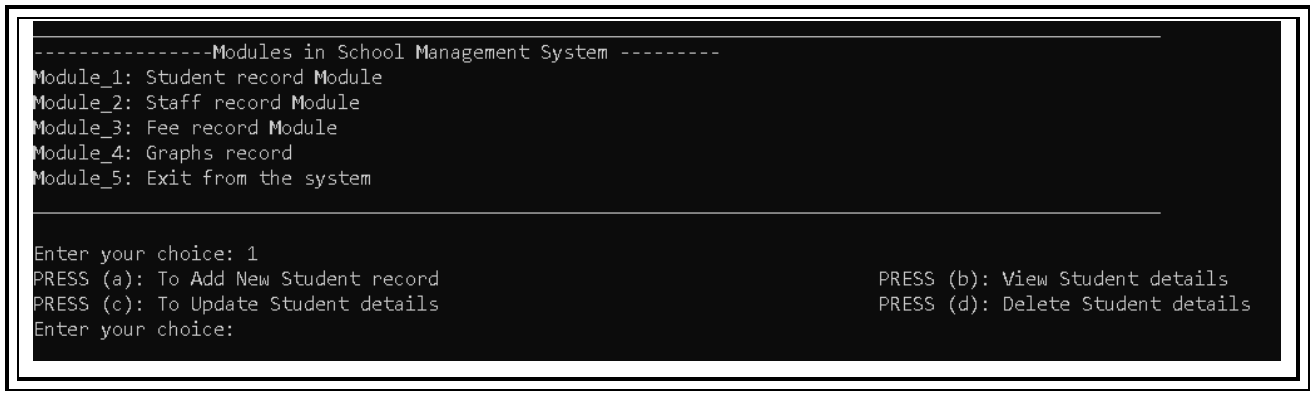
```
mysql> desc staff;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| Id         | int(11)     | YES  |     | NULL    |       |
| post       | varchar(50) | YES  |     | NULL    |       |
| name       | varchar(50) | YES  |     | NULL    |       |
| salary     | varchar(50) | YES  |     | NULL    |       |
| phone      | char(10)    | YES  |     | NULL    |       |
| date_added | varchar(255)| YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
6 rows in set (0.01 sec)
```

Fee table has following Schema

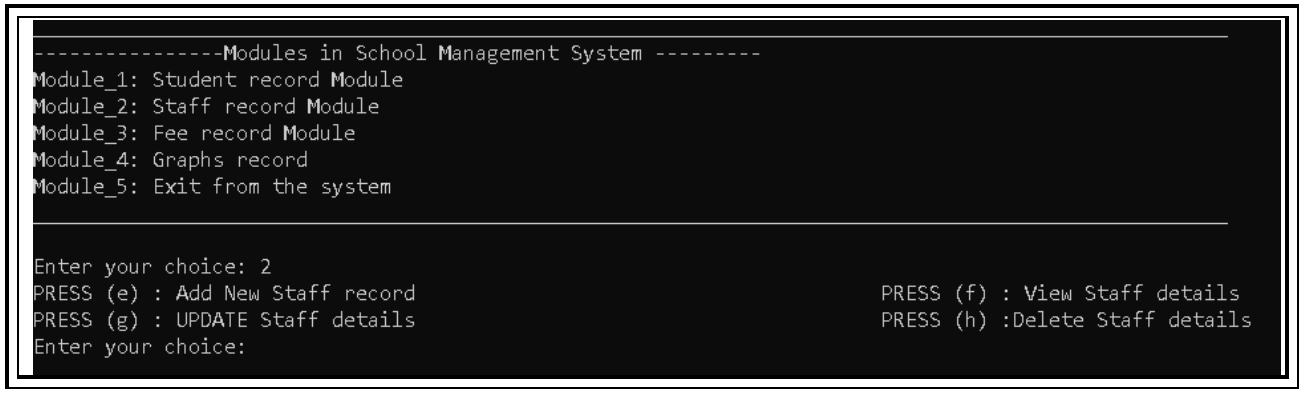
```
mysql> desc fee;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| Id         | int(11)     | YES  | MUL | NULL    |       |
| Name       | varchar(50) | YES  |     | NULL    |       |
| Class      | varchar(50) | YES  |     | NULL    |       |
| Status     | varchar(50) | YES  |     | NULL    |       |
| Quarter    | varchar(50) | YES  |     | NULL    |       |
| PaidAmt    | int(11)     | YES  |     | NULL    |       |
| date_added | varchar(255)| YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
7 rows in set (0.01 sec)
```

USER OUTPUT

STUDENT MODULE DETAILS:



STAFF MODULE DETAILS:



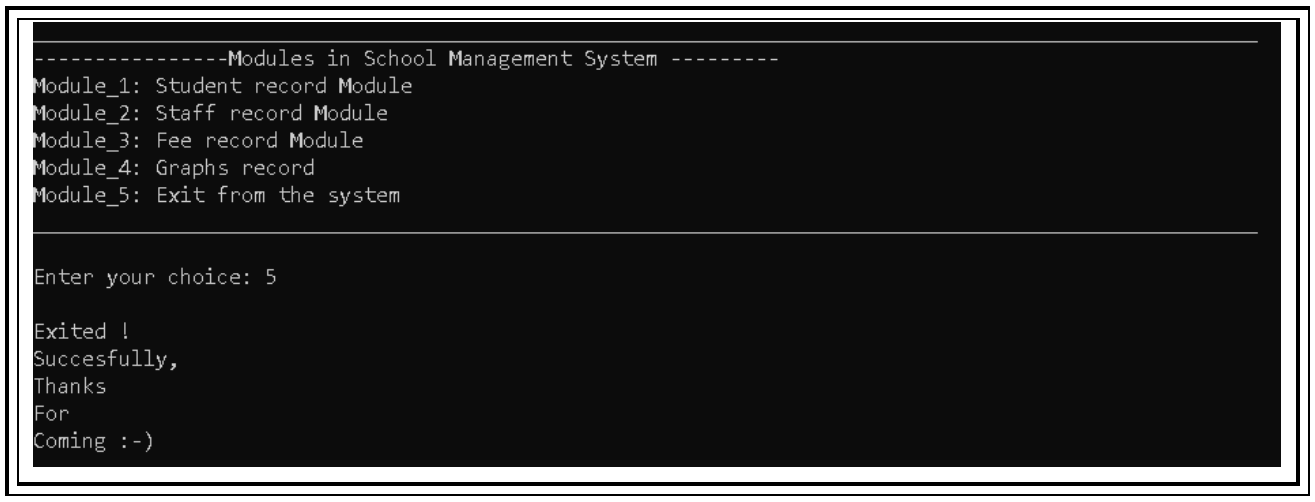
FEE MODULE DETAILS:

```
----------Modules in School Management System ---------
Module_1: Student record Module
Module_2: Staff record Module
Module_3: Fee record Module
Module_4: Graphs record
Module_5: Exit from the system
_____________________________________________________________________________

Enter your choice: 3
PRESS (i): Add Fee deposit details                    PRESS (j): View Fee details
PRESS (k): Update Fee details                         PRESS (l): Delete Fee details
Enter your choice:
```

GRAPHS MODULE DETAILS:

```
----------Modules in School Management System ---------
Module_1: Student record Module
Module_2: Staff record Module
Module_3: Fee record Module
Module_4: Graphs record
Module_5: Exit from the system
_____________________________________________________________________________

Enter your choice: 4
Press (1) to see in the form of Graph b/w Name & Ages
Press (2) to see in the form of Graph b/w Name & SALARY
Press (3) to see in the form of Graph b/w Name & Paid Amount
Press (4) to see in the form of Graph b/w Distribution of Students & Teachers
Press (5) to see in the form of Graph b/w Distribution of Students ID & Name
Press (6) to see a Bar Graph b/w Number of Students and their Classes
Enter your choice:
```

EXIT MODULE DETAILS:



CHARTS

Chart: Staff Name vs Salary:

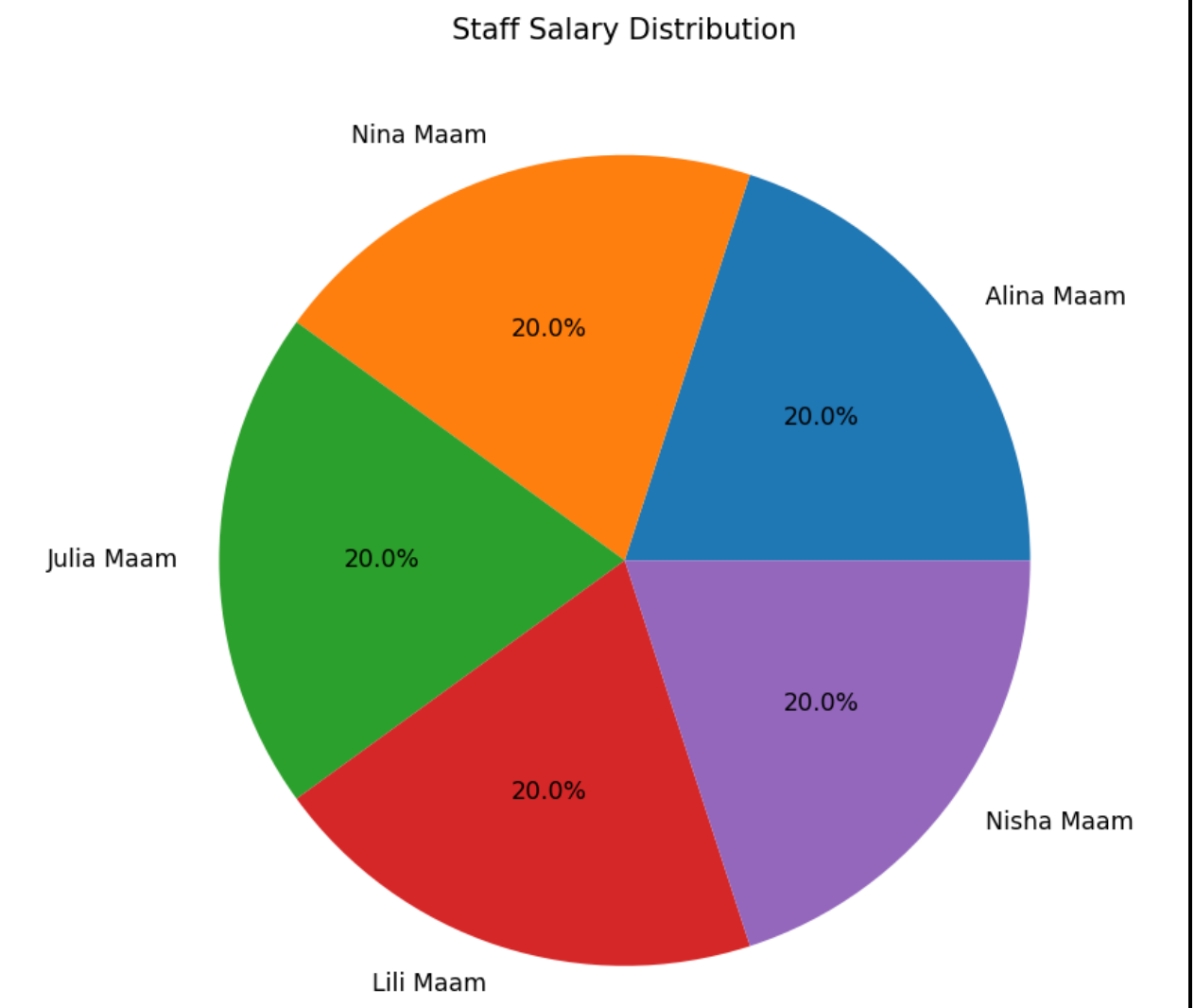


Chart :Students vs Amount Paid:

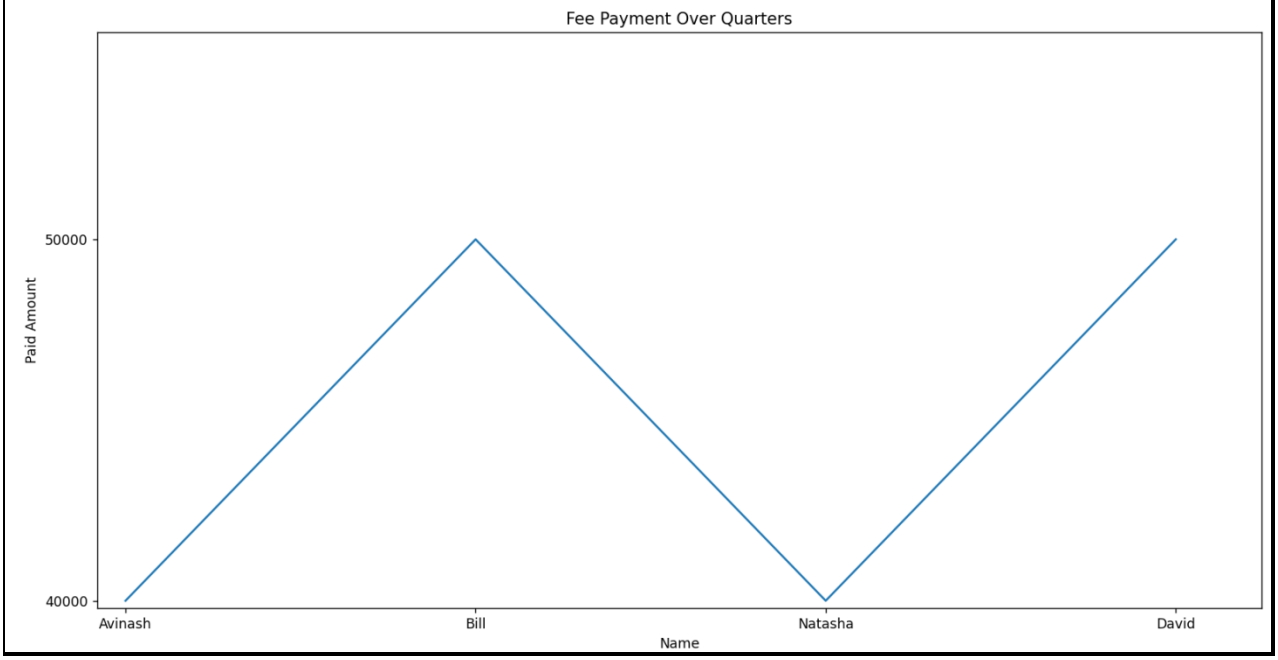


Chart: Students vs Ages:

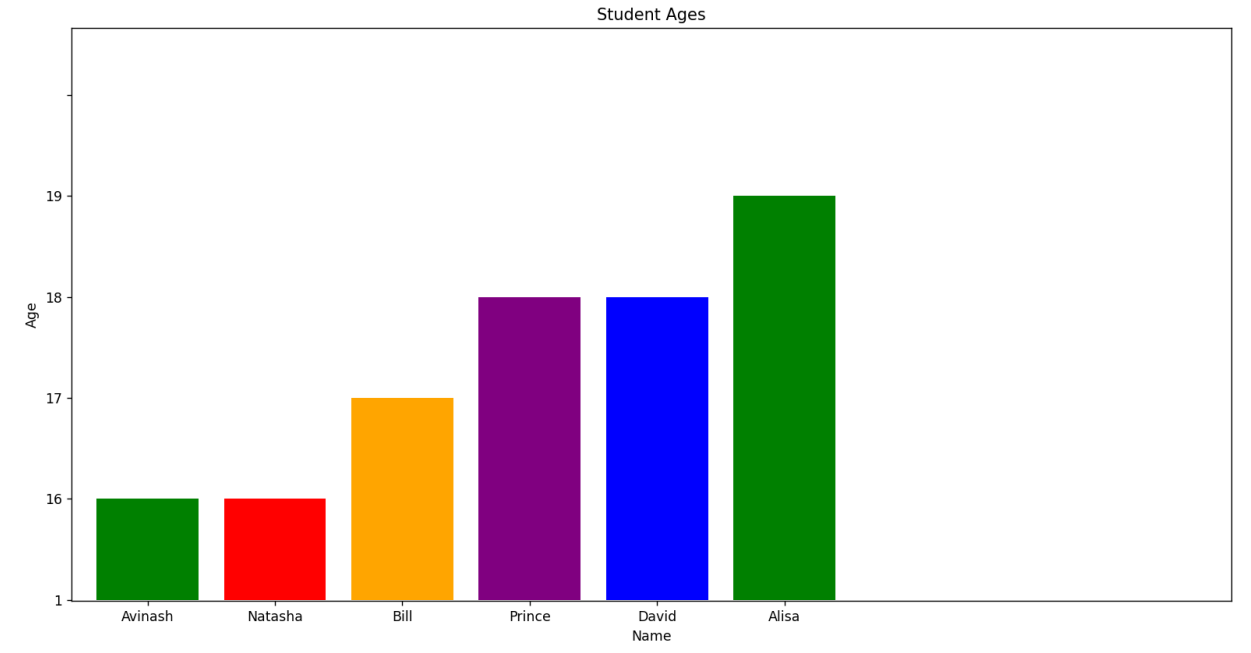


Chart: Students vs Teachers:

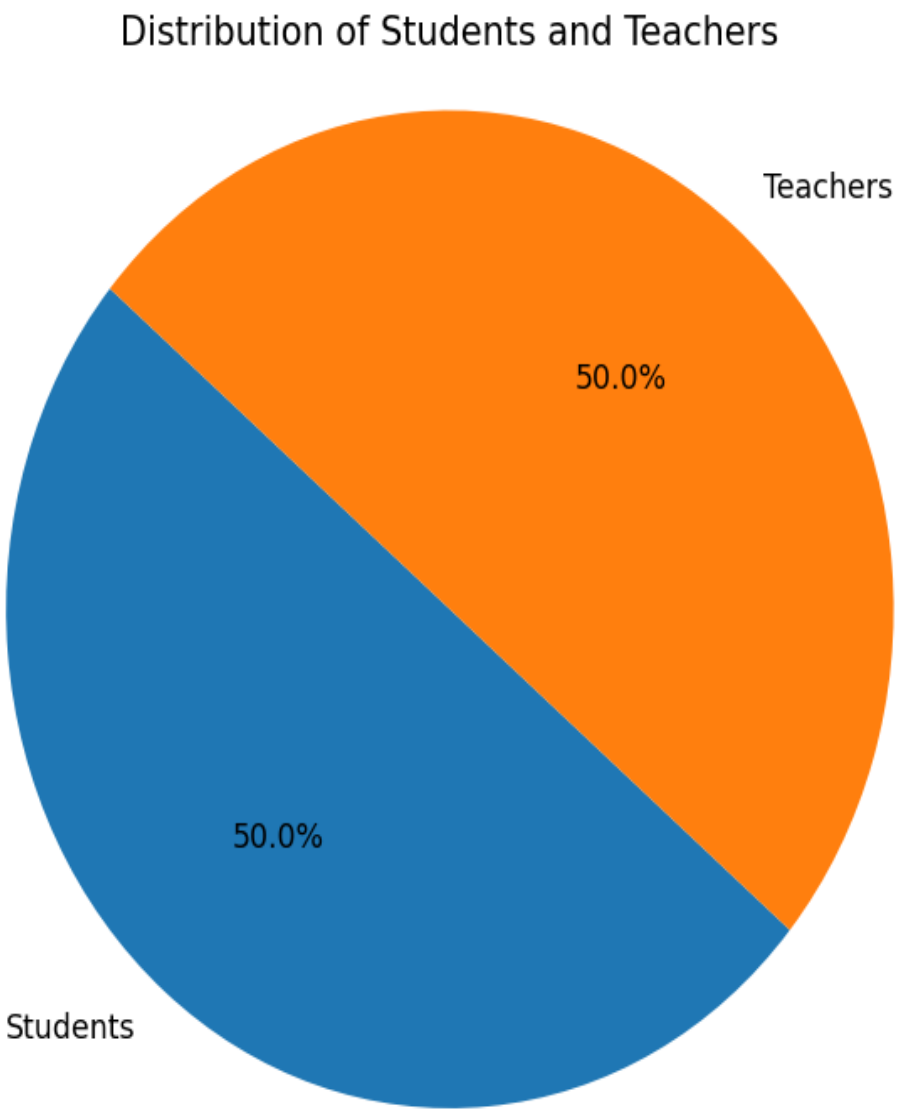


Chart: Students ID vs Name:

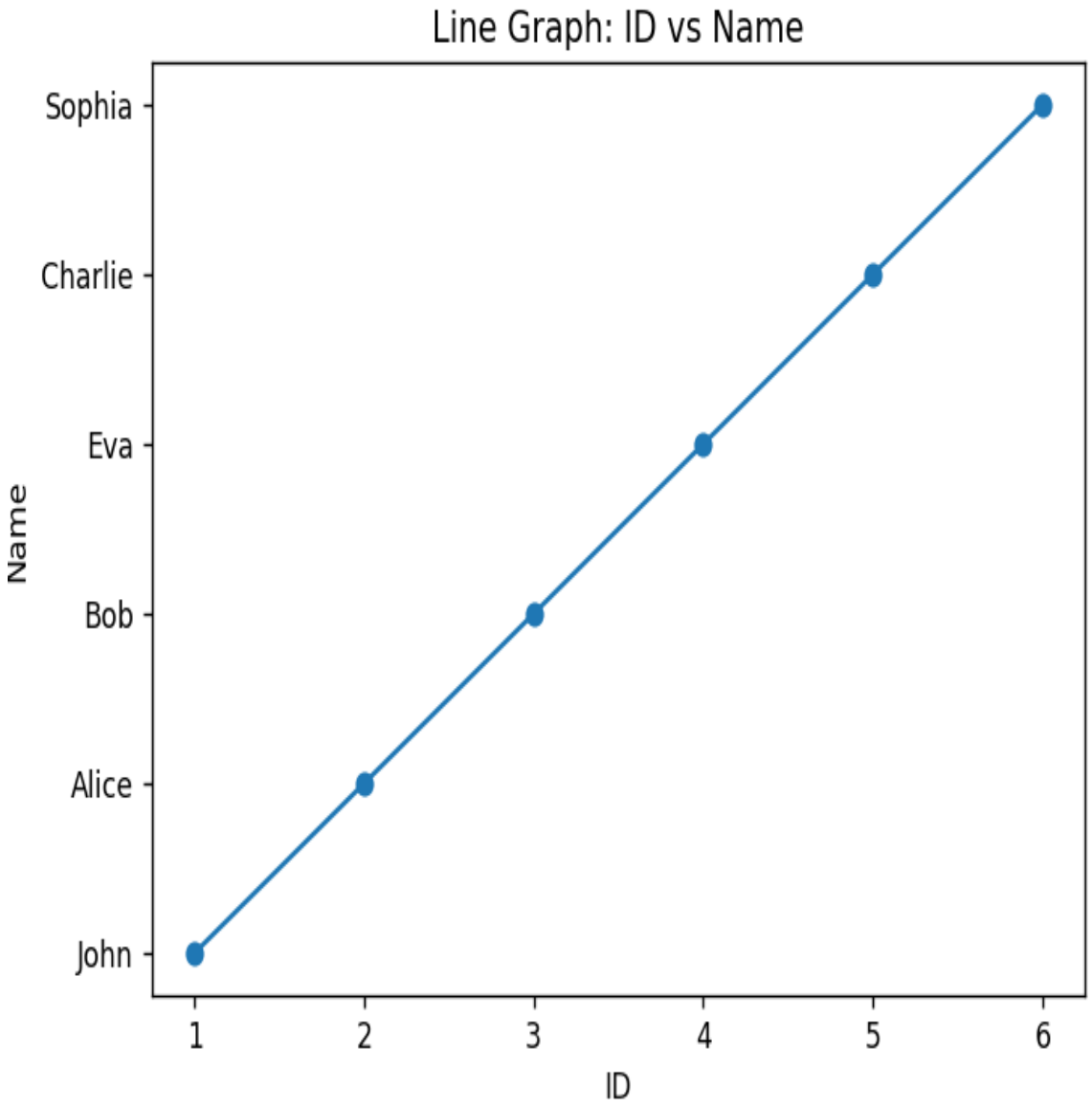
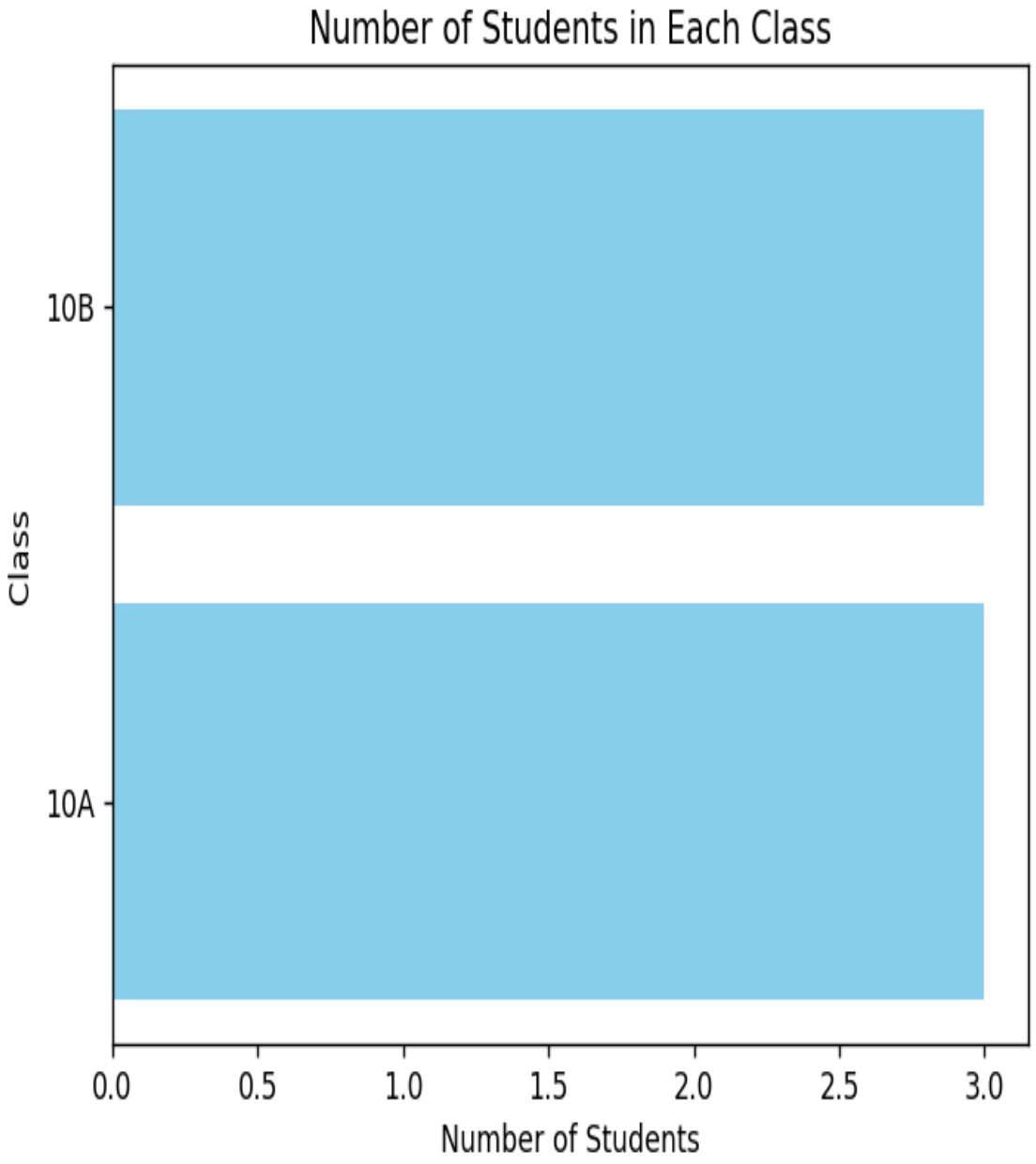


Chart: No. of Students vs Classes:



SQL QUERIES

```
Create database school;

use school;

CREATE TABLE IF NOT EXISTS students (Id INT PRIMARY KEY,name VARCHAR(255), age INT, gender VARCHAR(255), Class VARCHAR(255),date_added VARCHAR(255)

Desc students;

use school;

CREATE TABLE IF NOT EXISTS Staff(Id INT,post varchar(50),name varchar(50),salary varchar(50),phone char(10),date_added VARCHAR(255)

Desc Staff;

CREATE TABLE IF NOT EXISTS fee(Id INT,Name varchar(50),Class varchar(50),Status varchar(50),Quarter varchar(50),PaidAmt INT,date_added VARCHAR(255),FOREIGN KEY (Id) REFERENCES students(Id) Desc fee;
```

USER OUTPUT(SOURCE CODE)

```
mydb = mysql.connector.connect(

host="localhost",

user='root',

password='root')

print(mydb,"connected to server")

print("\n")

print("-" *100)

print("                              Welcome to  School Management System")

def menu():

    print("-" * 100)

    print("----------------Modules in School Management System ---------")

    print("Module_1: Student record Module ")

    print("Module_2: Staff record Module")

    print("Module_3: Fee record Module")

    print("Module_4: Exit from the system")

    print("_" * 100)

# Get the user's choice:

# if option first:

def getchoice():

    while True:

        create_database()

        create_students()

        create_Staff()

        create_fee()

        menu()
```

```
ch = input("Enter your choice: ")
 if ch=='1':
 print("PRESS (a): To Add New Student record                    PRESS (b): View Student details")
 print("PRESS (c): To Update Student details                    PRESS (d):Delete Student details")
    ch = input("Enter your choice: ")
    create_students()
    if ch=='a':
        add_student()
        input("Press ENTER KEY to continue.....")
        print()
    elif ch=='b':
        view_students()
        input("Press ENTER KEY to continue.....")
        print()
    elif ch=='c':
        update_student()
        input("Press ENTER KEY to continue.....")
        print()
    elif ch=='d':
        delete_student()
        input("Press ENTER KEY to continue.....")
        print()
```

```
## if option Second:
    elif ch=='2':
        print("PRESS (e) : Add New Staff record                    PRESS (f) : View Staff details | ")
        print("PRESS (g) : Delete Staff details                    PRESS (h) : UPDATE Staff details ")
        opp =input("Enter your choice: ")
        create_Staff()
        if opp=='e':
            add_staff()
            input("Press ENTER KEY to continue.....")
            print()
        elif opp=='f':
            view_staff()
            input("Press ENTER KEY to continue.....")
            print()
        elif opp=='g':
            update_staff()
            input("Press ENTER KEY to continue.....")
            print()
        elif opp=='h':
            delete_staff()
            input("Press ENTER KEY to continue.....")
            print()
```

```
### if option Third:
    elif ch=='3':
        print("PRESS (i): Add Fee deposit details                    PRESS (j): View Fee details ")
        print("PRESS (k): Update Fee details                    PRESS (l): Delete Fee details")
        opp = input("Enter your choice: ")
        create_fee()
        if opp=='i':
            fee()
            input("Press ENTER KEY to continue.....")
            print()
        elif opp=='j':
            view_fee()
            input("Press ENTER KEY to continue.....")
            print()
        elif opp=='k':
            update_fee()
            input("Press ENTER KEY to continue.....")
            print()
        elif opp=='l':
            delete_fee()
            input("Press ENTER KEY to continue.....")
            print()
```

```
#### if option Fourth:
    elif ch=='4':
        print("Press (1) to see in the form of Graph b/w Name & Ages ")
        print("Press (2) to see in the form of Graph b/w Name & SALARY ")
        print("Press (3) to see in the form of Graph b/w Name & Paid Amount ")
        print("Press (4) to see in the form of Graph b/w Distribution of Students and Teachers ")
        ch = input("Enter your choice: ")# Get the user's choice
        if ch == '1':
            cursor = mydb.cursor()
            cursor.execute("SELECT * FROM students")
            result = cursor.fetchall()
            result_list = [list(row) for row in result]
            lst1 = [row[0] for row in result_list]
            lst2 = [row[1] for row in result_list]
            lst3 = [row[2] for row in result_list]
            lst4 = [row[3] for row in result_list]
            lst5 = [row[4] for row in result_list]
            df = pd.DataFrame({'ID': lst1, 'Name': lst2, 'Age': lst3, 'Gender': lst4, 'Class': lst5})
    # Sort the dataframe by Age in ascending order
            df_sorted = df.sort_values(by='Age')
    # Get the sorted values for 'Name' and 'Age'
            Name = df_sorted['Name'].tolist()
            Age = df_sorted['Age'].tolist()
```

```
    # Create the bar chart
            plt.bar(Name, Age, color=['blue', 'green', 'red', 'orange', 'purple'])
            plt.xlabel('Name')
            plt.ylabel('Age')
            plt.title('Student Ages')
    # Set the y-axis limits and ticks
            plt.ylim(0, 18)  # Set the y-axis limits from 0 to 18
            plt.yticks(range(19))  # Set the y-axis ticks from 0 to 18
            plt.show()
# Plotting pie chart
        elif ch == '2':
            cursor = mydb.cursor()
            cursor.execute("SELECT * FROM staff")
            result = cursor.fetchall()
            result_list = [list(row) for row in result]
            lst1 = [row[0] for row in result_list]
            lst2 = [row[1] for row in result_list]
            lst3 = [row[2] for row in result_list]
            lst4 = [row[3] for row in result_list]
            lst5 = [row[4] for row in result_list]
            df=pd.DataFrame({'ID':lst1,'POST':lst2,'NAME':lst3,'SALARY':lst4,'PHONE':lst5})
            plt.pie(df['SALARY'], labels=df['NAME'], autopct='%1.1f%%')
            plt.title('Staff Salary Distribution')
            plt.show()
```

```
#Plotting line chart
        elif ch == '3':
            cursor = mydb.cursor()
            cursor.execute("SELECT * FROM fee")
            result = cursor.fetchall()
            result_list = [list(row) for row in result]
            lst1 = [row[0] for row in result_list]
            lst2 = [row[1] for row in result_list]
            lst3 = [row[2] for row in result_list]
            lst4 = [row[3] for row in result_list]
            lst5 = [row[4] for row in result_list]
            lst6 = [row[5] for row in result_list]
            df=pd.DataFrame({'Id':lst1,'Name':lst2,'Class':lst3,'Status':lst4,'Quarter':lst5,'PaidAmt':lst6 })
    # Sort the DataFrame by Quarter in ascending order
            df.sort_values(by='PaidAmt')
            Name = df['Name']
            PaidAmt = df['PaidAmt']
            plt.plot(Name, PaidAmt)
            plt.xlabel('Name')
            plt.ylabel('Paid Amount')
            plt.title('Fee Payment Over Quarters')
            plt.show()
```

```
# Plotting pie chart No.of Students & Teachers:
        elif ch == '4':
            cursor = mydb.cursor()
            cursor.execute("SELECT * FROM students")
            result = cursor.fetchall()
            result_list = [list(row) for row in result]
            lst1 = [row[0] for row in result_list]
            lst2 = [row[1] for row in result_list]
            lst3 = [row[2] for row in result_list]
            lst4 = [row[3] for row in result_list]
            lst5 = [row[4] for row in result_list]
            df = pd.DataFrame({'ID': lst1, 'Name': lst2, 'Age': lst3, 'Gender': lst4, 'Class': lst5})
            cursor.execute("SELECT * FROM staff")
            result = cursor.fetchall()
            result_list = [list(row) for row in result]
            lst1 = [row[0] for row in result_list]
            lst2 = [row[1] for row in result_list]
            lst3 = [row[2] for row in result_list]
            lst4 = [row[3] for row in result_list]
            lst5 = [row[4] for row in result_list]
            df=pd.DataFrame({'ID':lst1,'POST':lst2,'NAME':lst3,'SALARY':lst4,'PHONE':lst5})
            # Count the number of students
            cursor.execute("SELECT COUNT(*) FROM students")
            num_students = cursor.fetchone()[0]
```

```
            # Count the number of staff (teachers)
            cursor.execute("SELECT COUNT(*) FROM staff")
            num_teachers = cursor.fetchone()[0]
            # Create a DataFrame for the data
            data = {'Category': ['Students', 'Teachers'], 'Count': [num_students, num_teachers]}
            df = pd.DataFrame(data)
            # Plotting the pie chart
            plt.figure(figsize=(6, 6))
            plt.pie(df['Count'], labels=df['Category'], autopct='%1.1f%%', startangle=140)
            plt.title('Distribution of Students and Teachers')
            plt.axis('equal')  # Equal aspect ratio ensures that pie is drawn as a circle.
            # Show the chart
            plt.show()
#### if option fiveth:
        elif ch=='5':
            print()
            print("Exited !")
            print("Succesfully,")
            print("Thanks")
            print("For")
            print("Coming :-)")
            print()
            print()
            print()
            print()
```

ADD STUDENT RECORD

```
# Creating the table if it doesn't exist

def create_students():

    cursor = mydb.cursor()

    cursor.execute('CREATE TABLE IF NOT EXISTS students (Id INT PRIMARY KEY,name
VARCHAR(255), age INT, gender VARCHAR(255), Class VARCHAR(255),date_added VARCHAR(255))')

def add_student():

  Id = input("Enter Id of student: ")

  cursor = mydb.cursor()

  cursor.execute("SELECT * FROM students WHERE Id = %s", (Id,))

  existing_students = cursor.fetchone()

  if existing_students:

    print("student with this Id already exists. Please enter a different Id.")

  else:

      name = input("Enter student Name: ")

      age = input("Enter student's age: ")

      gender = input("Enter student gender(m/f): ")

      Class = input("Enter student Class: ")

      now = datetime.now()

      date_time = now.strftime("%Y-%m-%d %H:%M:%S")

      # Inserting Values

      sql = "INSERT INTO students (Id, name, age, gender, Class, date_added) VALUES (%s, %s, %s ,
%s, %s, %s)"

      val = (Id, name, age, gender, Class, date_time)

      cursor.execute(sql, val)# Executing the SQL query

      mydb.commit()# Committing the changes in the table

      print(cursor.rowcount, "record(s) inserted.")
```

DELETE STUDENT RECORD

```
# Define the function to delete student details

def delete_student():

    Id = input("Enter student Id: ")

    cursor = mydb.cursor()

    sql = "delete from students where Id = %s"

    val = (Id,)

    cursor.execute(sql, val)

    mydb.commit()

    print(cursor.rowcount, "record(s) deleted.")
```

VIEW STUDENT RECORD

```
# Define the function to view student details

def view_students():

    cursor = mydb.cursor()

    cursor.execute("SELECT * FROM students")

    result = cursor.fetchall()

    print("Press (f) to see in the form of DataFrame")

    print("Press (i) to see the Separate Index values")

    print("Press (l) to see in the form of list")

    ch = input("Enter your choice: ")

    if ch=='i':

        result_list = [list(row) for row in result]

        lst1 = [row[0] for row in result_list]

        print("Id is:", lst1)

        lst2 = [row[1] for row in result_list]
```

```
        print('Name is:', lst2)
        lst3 = [row[2] for row in result_list]
        print('Age is', lst3)
        lst4 = [row[3] for row in result_list]
        print('Gender is: ', lst4)
        lst5 = [row[4] for row in result_list]
        print('Class is', lst5)
        lst6 = [row[5] for row in result_list]
        print('Date_&_Time', lst6)
    elif ch=='l':
        result_list = [list(row) for row in result]
        print(result_list)
    elif ch=='f':
        result_list = [list(row) for row in result]
        lst1 = [row[0] for row in result_list]
        lst2 = [row[1] for row in result_list]
        lst3 = [row[2] for row in result_list]
        lst4 = [row[3] for row in result_list]
        lst5 = [row[4] for row in result_list]
        lst6 = [row[5] for row in result_list]
        df = pd.DataFrame({'Id': lst1, 'Name': lst2, 'Age': lst3, 'Gender': lst4, 'Class': lst5,'Date_&_Time':
lst6})
        print(df.to_markdown())
```

UPDATE STUDENT RECORD

```
# Define the function to update student details

def update_student():

    Id = input("Enter student's Id: ")

    name = input("Enter student's Name: ")

    age = input("Enter studenlt's age: ")

    gender = input("Enter student's gender(m/f): ")

    Class = input("Enter student's Class: ")

    cursor = mydb.cursor()

    sql_up = "update students set name = %s, age = %s, gender = %s, Class = %s where Id = %s"

    val_up = (name, age, gender, Class,Id)

    cursor.execute(sql_up, val_up)

    mydb.commit()

    print(cursor.rowcount, "record(s) updated.")
```

ADD STAFF RECORD

```
# CREATING A TABLE

def create_Staff():

        cursor = mydb.cursor()

        cursor.execute('CREATE TABLE IF NOT EXISTS Staff(Id INT,post varchar(50),name
varchar(50),salary varchar(50),phone char(10),date_added VARCHAR(255) ,FOREIGN KEY (Id)
REFERENCES students(Id))')

# Define the function to add a new staff

def add_staff():

    Id = input("Enter staff ID: ")

    cursor = mydb.cursor()

    cursor.execute("SELECT * FROM staff WHERE Id = %s", (Id,))
```

```
    existing_staff = cursor.fetchone()
    if existing_staff:
        print("Staff with this ID already exists. Please enter a different ID.")
    else:
        post = input("Enter staff Post: ")
        name = input("Enter staff Name: ")
        salary = input("Enter staff Salary: ")
        phone = input("Enter staff Phone no: ")
        now = datetime.now()
        date_time = now.strftime("%Y-%m-%d %H:%M:%S")
        # Inserting Values
        sql = "INSERT INTO staff (Id, post, name, salary, phone, date_added) VALUES (%s, %s, %s, %s, %s, %s)"
        val = (Id, post, name, salary, phone, date_time)
        cursor.execute(sql, val)
        mydb.commit()
        print(cursor.rowcount, "record(s) inserted.")
```

UPDATE STAFF RECORD

```
# Define the function to update staff details
def update_staff():
    Id=input("Enter staff ID: ")
    post=input("Enter staff Post: ")
    name = input("Enter staff Name: ")
    salary = input("Enter staff Salary: ")
    phone = input("Enter staff Phone no: ")
```

```
    cursor = mydb.cursor()
-   sql = "UPDATE staff set Id = %s , post= %s, name = %s, salary = %s, phone = %s WHERE Id = %s"
    val = (Id,post,name,salary, phone)
    cursor.execute(sql, val)
    mydb.commit()
    print(cursor.rowcount, "record(s) updated.")
```

DELETE STAFF RECORD

```
# Define the function to delete staff details
def delete_staff():
    Id = input("Enter staff ID: ")
    cursor = mydb.cursor()
    sql = "DELETE FROM staff WHERE Id = %s"
    val = (Id,)
    cursor.execute(sql, val)
    mydb.commit()
    print(cursor.rowcount, "record(s) deleted.")
```

VIEW STAFF RECORD

```
# Define the function to view student details
def view_staff():
    cursor = mydb.cursor()
    cursor.execute("SELECT * FROM staff")
    result = cursor.fetchall()
    print("Press (f) to see in the form of DataFrame")
    print("Press (i) to see the Separate Index values")
    print("Press (l) to see in the form of list")
    ch = input("Enter your choice: ")# Get the user's choice
    if ch=='i':
        result_list = [list(row) for row in result]
        lst1 = [row[0] for row in result_list]
        print("Id is:", lst1)
        lst2 = [row[1] for row in result_list]
        print('Post is:', lst2)
        lst3 = [row[2] for row in result_list]
        print('Name is:', lst3)
        lst4 = [row[3] for row in result_list]
        print('Salary is: ', lst4)
        lst5 = [row[4] for row in result_list]
        print('Phone_no is: ', lst5)
        lst6 = [row[5] for row in result_list]
        print('Date_&_Time is: ', lst6)

    elif ch=='l':
```

```
        result_list = [list(row) for row in result]

        print(result_list)

    elif ch=='f':

        result_list = [list(row) for row in result]

        lst1 = [row[0] for row in result_list]

        lst2 = [row[1] for row in result_list]

        lst3 = [row[2] for row in result_list]

        lst4 = [row[3] for row in result_list]

        lst5 = [row[4] for row in result_list]

        lst6 = [row[5] for row in result_list]

        df=pd.DataFrame({'ID':lst1,'POST':lst2,'NAME':lst3,'SALARY':lst4,'PHONE':lst5,'Date_&_Time':
lst6})

        print(df.to_markdown())
```

ADD FEE RECORD

```
# CREATING A TABLE

def create_fee():

      cursor = mydb.cursor()

      cursor.execute('CREATE TABLE IF NOT EXISTS fee(Id INT,Name varchar(50),Class
varchar(50),Status varchar(50),Quarter varchar(50),PaidAmt INT,date_added VARCHAR(255),FOREIGN
KEY (Id) REFERENCES students(Id))')

# Define the function to add Fee details

def fee():

    Id = input("Enter Payer's ID: ")

    cursor = mydb.cursor()

  cursor.execute("SELECT * FROM fee WHERE Id = %s", (Id,))

    existing_fee = cursor.fetchone()

    if existing_fee:
```

```
        print("fee with this ID already exists. Please enter a different Id.")
    else:
            Name = input("Enter Payer's Name: ")
            Class = input("Enter Payer's Class: ")
            Status = input("Enter Status (Paid/Due): ")
            Quarter = input("Enter Quarter: ")
            PaidAmt = input("Enter Paid Amount: ")
            now = datetime.now()
            date_time = now.strftime("%Y-%m-%d %H:%M:%S")
            # Inserting Values
            sql = "INSERT INTO fee (Id, Name, Class, Status, Quarter, PaidAmt, date_added) VALUES (%s,
%s, %s, %s, %s, %s, %s)"
            val = (Id, Name, Class, Status, Quarter, PaidAmt, date_time)
            cursor.execute(sql, val)
            mydb.commit()# Committing the changes in the table
            print(cursor.rowcount, "record(s) inserted.")
```

VIEW FEE RECORD

```
# Define the function to view Fee details

def view_fee():

    cursor = mydb.cursor()

    cursor.execute("SELECT * FROM fee")

    result = cursor.fetchall()

    print("Press (f) to see in the form of DataFrame")

    print("Press (i) to see the Separate Index values")

    print("Press (l) to see in the form of list")

# Get the user's choice

    ch = input("Enter your choice: ")

    if ch=='i':

            result_list = [list(row) for row in result]

            lst1 = [row[0] for row in result_list]

            print("Id is:", lst1)

            lst2 = [row[1] for row in result_list]

            print('Name is:', lst2)

            lst3 = [row[2] for row in result_list]

            print('Class is:', lst3)

            lst4 = [row[3] for row in result_list]

            print('Status is: ', lst4)

            lst5 = [row[4] for row in result_list]

            print('Quarter is:', lst5)

            lst6 = [row[5] for row in result_list]

            print('PaidAmt is:', lst6)
```

```
  lst7 = [row[6] for row in result_list]
        print('Date_&_Time is:', lst7)
   elif ch=='l':
        result_list = [list(row) for row in result]
        print(result_list)
  elif ch=='f':
        result_list = [list(row) for row in result]
        lst1 = [row[0] for row in result_list]
        lst2 = [row[1] for row in result_list]
        lst3 = [row[2] for row in result_list]
        lst4 = [row[3] for row in result_list]
        lst5 = [row[4] for row in result_list]
        lst6 = [row[5] for row in result_list]
        lst7 = [row[6] for row in result_list]

df=pd.DataFrame({'Id':lst1,'Name':lst2,'Class':lst3,'Status':lst4,'Quarter':lst5,'PaidAmt':lst6,'Date_&_Time'
: lst7 })
        print(df.to_markdown())
```

DELETE FEE RECORD

```
# Define the function to delete Fee details
def delete_fee():
    Id = input("Enter student Id: ")
    cursor = mydb.cursor()
    sqle = "DELETE FROM fee WHERE Id = %s"
    vale = (Id,)
    cursor.execute(sqle, vale)
```

```
    mydb.commit()

    print(cursor.rowcount, "record(s) deleted.")
```

UPDATE FEE RECORD

```
# Define the function to update Fee details

def update_fee():

    Id = input("Enter student Id: ")

    Name = input("Enter student Name: ")

    Class = input("Enter student Class: ")

    Status = input("Enter student Status(Paid/Due): ")

    Quarter = input("Enter student Quarter: ")

    PaidAmt = input("Enter student PaidAmount: ")

  cursor = mydb.cursor()

    sqlx = "UPDATE fee SET Name = %s, Class = %s, Status = %s, Quarter = %s,PaidAmt = %s WHERE Id
= %s"

    valx = (Name,Class,Status,Quarter,PaidAmt,Id)

    cursor.execute(sqlx, valx)

    mydb.commit()

    print(cursor.rowcount, "record(s) updated.")
```

CONCLUSION

The Python-based School Management System is a revolutionary tool that has ushered in a new era of efficiency, customer service, and overall success in school administration. It integrates various functionalities, spanning from managing student records and staff details to handling fee transactions. The system provides a user-friendly interface, ensuring accessibility for both school employees and stakeholders, thereby enhancing the overall user experience.

This comprehensive system not only streamlines complex processes such as student record management but also centralizes and organizes data, fostering a more organized and responsive approach to daily school operations. The impact of the system extends beyond internal processes to customer interactions, enabling timely and personalized responses to inquiries, efficient management of fee transactions, and a heightened level of engagement that contributes to overall stakeholder satisfaction.

In essence, the School Management System stands as a testament to the transformative power of technology in the realm of educational administration. By embracing and implementing such a system, schools position themselves at the forefront of innovation, ensuring a competitive edge and sustained success in the dynamic and evolving landscape of education.

Future Scope of Project

Some suggestions for the "Future Scope of Project":

1.Integration with Online Platforms:Explore the possibility of integration the School Management System wth online platforms for a more seamless experience.This could include student and parent portals, online fee payment gateways and communication platforms.

2. Enhanced Security Measures: Implement advanced security features to protect sensitive student and staff information. This may include two-factor authentication, encrypted databases, and regular security audits.

3. Parent-Teacher Communication Platform: Develop a dedicated platform for effective communication between parents and teachers. This could include features such as messaging, progress reports and scheduling parent-teacher meetings.

4. Customization and Scalability: Ensure that the system is easily customizable to meet the unique needs of different schools. Make it scalable so that it can accommodate the growth of data and users Over time.

5. User Training and Support: Provide comprehensive user training modules and support systems for administrators, teachers, and parents to ensure smooth adoption and effective use of the School Management System.

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