CORE JAVA PROJECT

PROJECT TITLE: SCHOOL MANAGEMENT SYSTEM

AIM:

- To achieve the school management system without any interruptions.

LANGUAGES:

- JAVA and SQL

SOFTWARE REQUIREMENTS:

- Eclipse for java.
- Mysql for sql.

SYNOPSIS:

In this SCHOOL MANAGEMENT SYSTEM there 5 main operations are there.

That MAIN OPERATIONS are:

1. LOGIN --> Admin can perform that operation.

2. STUDENT -->Admin can perform that operation.

4. TEACHER -->Admin can perform that operation.

5.P&L OF SCHOOL -->Admin perform the operation.

The control is given to only the admin. Admin can perform operations like fetching information about the student and teacher who all are there in school how many more he can hire a teacher or give admission to student. In that Student side there is five main operations are given. The first one is Display operation it will display all student. Second one is Insert when ever you need to add the student this module will help. Third one is Delete this will remove all information like, name ,address, phone number, fees, feespaid . Forth one is Update process in this we can update fees. Final one is total feespaid by student till date.

INITIAL SETUP:

(IN JAVA):

Mavan Project Name: School_Management_Project.

Package Name: com.school.

Classes Name : 1. MainSchoolHandler

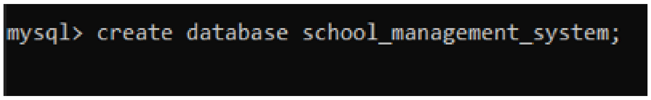
2. SchoolConnection

3.StudentManagement

4.TeacherManagement

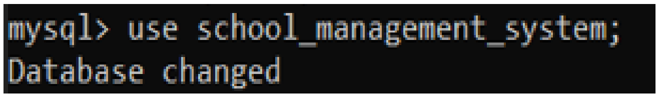
(IN DATABASE):

Creating database in sql (query)



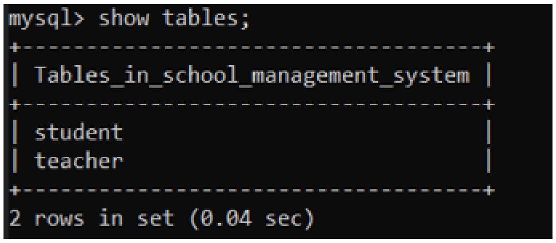
```
mysql> create database school_management_system;
```

Database Creation:



```
mysql> use school_management_system;
Database changed
```

Tables Creation:



```
mysql> show tables;
+----------------------------------+
| Tables_in_school_management_system |
+----------------------------------+
| student                          |
| teacher                          |
+----------------------------------+
2 rows in set (0.04 sec)
```

SCHOOLMANAGEMENTSYSTEM MAIN CLASS

ADMIN MAIN METHOD CODE:

```
/**
 ****************************CORE JAVA PROJECT********************
 *                       CSR CAPGEMINI TRAINING PROJECT
 *                       EDUBRIDGE INDIA PRIVATE LIMITED
 *                PROJECT TITLE: SCHOOL MANAGEMENT SYSTEM
 *               UNDER THE GUIDENCE OF TRAINER MRS.INDRAKA MALLI
 *                                              @DONE BY ANDIAPPAN R
 *
 * In SCHOOL MANAGEMENT SYSTEM:
 * MAIN OPERATIONS:
 *
 * 1. LOGIN                → Admin can perform that operation.
 * 3. STUDENT SECTION      → Admin can perform that operation.
 * 4. TEACHER SECTION      → Admin can perform that operation.
 * 5. CALCULATE PROFIT
      AND LOSS OF SCHOOL   → Admin perform the operation.
 * */
```

* MAINSCHOOLHANDLER class is having three major operations

*This will decides which operation to perform.

1.Student Data

2.Teacher Data

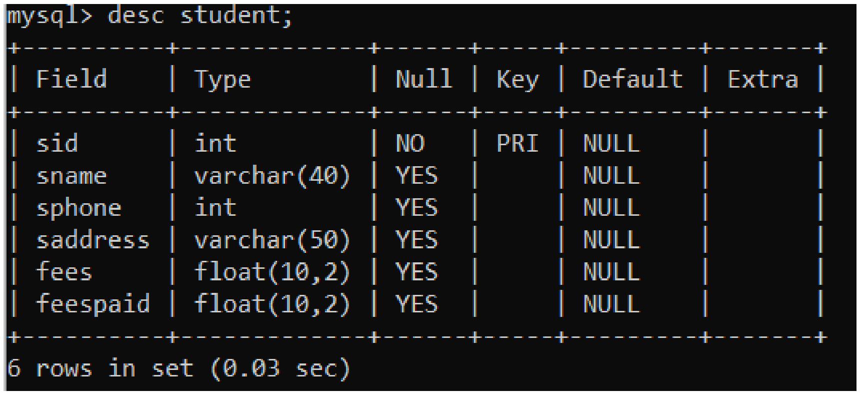
3.CALCULATE PROFIT AND LOSS OF SCHOOL

```
case 11:
*If admin choice is student
*1. Display
*2. Add
*3. Delete
*4. Update
*5. Total fees-paid by student
*
*case 12:
*If admin choice is Teacher
*1. Display
*2. Add
*3. Delete
*4. Update
*5. Total salary-paid to teacher
*
*case 13:
*If admin choice is calculate profit and loss of school
*
*/
package com.school;

import java.sql.SQLException;
import java.util.Scanner;

public class MainSchoolHandler {

      public static void main(String[] args) throws SQLException {
            System.out.println("----Login in---");
            Scanner sc=new Scanner(System.in);
            System.out.println("Enter username");
            String uname=sc.next();
            System.out.println("Enter password");
            String upass=sc.next();
            if(uname.equals("gopal") && upass.equals("gopal@123")) {
            int whichdata;
             int choice;
             char ch;


            System.out.println("Select any");
            System.out.println("11. Student Data");
            System.out.println("12. Teacher Data");
            System.out.println("13. Calculate profit and loss of school");
             whichdata=sc.nextInt();
             switch(whichdata) {
             case 11:



                while(true) {
                  System.out.println("***********Student
Details*************");
                  System.out.println("Choose a action u want to perform");
                  System.out.println("1. Display student details");
                  System.out.println("2. Add new Student details");
                  System.out.println("3. Delete student details");
                  System.out.println("4. update student details");
                  System.out.println("5. Total fees paid by student");


                  choice=sc.nextInt();
                  switch(choice) {


                  case 1: // Display
                            System.out.println("Display all student
details");
                            StudentManagement.DisplayStudent();
                            break;
                  case 2: //Insert
                            System.out.println("Add new student");
                            StudentManagement.AddStudent();
                            break;
                  case 3: //Delete
                            System.out.println("Delete student details");
                            StudentManagement.DeleteStudent();
                            break;
                  case 4://Update
                            System.out.println("Update student details");
                            StudentManagement.UpdateStudent();
                            break;
                  case 5://totalfees
                            System.out.println("Totalfeespaid by the students
");
                            StudentManagement.TotalFeesPaid();
                            break;
              default: System.out.println("Invalid input");
                  }
                  System.out.println("Do u want to continue y/n");
                  ch=sc.next().charAt(0);
                  if(ch=='n' || ch=='N')
                        break;
            }
            System.out.println("Logout student successfully");


             case 12:
                   System.out.println("Do u want to enter teachers details
y/n");
                        ch=sc.next().charAt(0);
                        if(ch=='n' || ch=='N') {
                        System.out.println("Logout successfully");
                        break;


                        }
                , while(true) {
                  System.out.println("***********Teacher
Details*************");
                  System.out.println("Choose a action u want to perform");
                  System.out.println("1. Display teacher details");
                  System.out.println("2. Add new teacher details");
                  System.out.println("3. Delete teacher details");
                  System.out.println("4. Update teacher details");
                  System.out.println("5. Total salary paid to teachers");


                  choice=sc.nextInt();
                  switch(choice) {


                  case 1: // Display
                            System.out.println("Display all teacher
details");
```

```
                            TeacherManagement.DisplayTeacher();
                            break;
                  case 2://Add
                            System.out.println("Add new teacher details");
                            TeacherManagement.AddTeacher();
                            break;
                  case 3://Delete
                            System.out.println("Delete teacher record");
                            TeacherManagement.DeleteTeacher();
                            break;
                  case 4://update
                            System.out.println("Update teacher record");
                            TeacherManagement.UpdateTeacher();
                            break;
                  case 5://totalfeespaid
                             System.out.println("Totalsalarypaid to teacher
is ");
                             TeacherManagement.TotalSalaryPaid();
                             break;
              default: System.out.println("Invalid input");
                  }
                  System.out.println("Do u want to continue y/n");
                  ch=sc.next().charAt(0);
                  if(ch=='n' || ch=='N')
                        break;
            }
             System.out.println("Logout teacher successfully");
             case 13:// Profit loss calculation
                       System.out.println("Calculate profit loss of school");
                       double sf=StudentManagement.TotalFeesPaid();
                       double ts=TeacherManagement.TotalSalaryPaid();
                       double Totalmoney=sf-ts;
                       System.out.println("Total amount = "+Totalmoney+" 
Rs");
                       if(Totalmoney<0) {
                         System.out.println("School is running in loss");
                       }else if(Totalmoney>0)  {
                         System.out.println("School is running in profit");
                       }else if(Totalmoney==0) {
                         System.out.println("School is neither in loss nor in 
profit");
                       }else {
                         System.out.println("Something went wrong");

                       break;
            }
      }
      }else {
            System.out.println("Incorrect password");

      }
      }
}
```

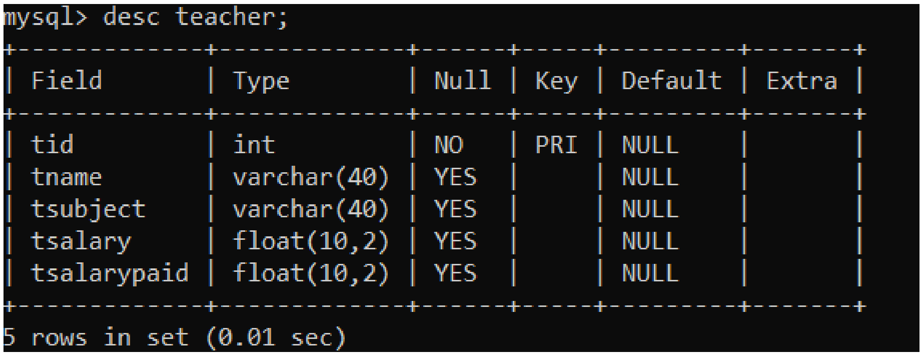
Database table creation:

Student table structure:



```
mysql> desc student;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| sid      | int         | NO   | PRI | NULL    |       |
| sname    | varchar(40) | YES  |     | NULL    |       |
| sphone   | int         | YES  |     | NULL    |       |
| saddress | varchar(50) | YES  |     | NULL    |       |
| fees     | float(10,2) | YES  |     | NULL    |       |
| feespaid | float(10,2) | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
6 rows in set (0.03 sec)
```

Teacher table structure:



```
mysql> desc teacher;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| tid         | int         | NO   | PRI | NULL    |       |
| tname       | varchar(40) | YES  |     | NULL    |       |
| tsubject    | varchar(40) | YES  |     | NULL    |       |
| tsalary     | float(10,2) | YES  |     | NULL    |       |
| tsalarypaid | float(10,2) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
5 rows in set (0.01 sec)
```

DATABASE CONNECTION CLASS:

DATA BASE CODE:

```
/**

* Data base connection class-> it makes a connections between the JAVA and mysql

*

*  1.Driver->That implements the java databases connectivity (JDBC) API

*

*  2.url->data base management system jdbc driver uses to connect to a database

*

*  3.username-> user name of the database

*

*  4.password->pass word for the databases

*
```

```
*  5.forname()-> method is loading the driver dynamically loads a java class
at runtime

*

*  6.DriverManger->Is that class making connection to database by passing
arguments as a url ,username and password.

*

*/

package com.school;


import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.util.Scanner;


public class SchoolConnection {


      private static String driver="com.mysql.cj.jdbc.Driver";

      private                          static                          String
url="jdbc:mysql://localhost:3306/school_management_system";


      private static String un="root";

      private static String up="root";


      private static Connection conn=null;

      private static PreparedStatement pst;

      private static ResultSet rs=null;


      public static Connection getConnection() {

            try {

                  Class.forName(driver);
                  conn=DriverManager.getConnection(url,un,up);
                  if(conn==null) {
                        System.out.println("Connection error!!!");
                  }
            }catch(Exception e) {
                  e.printStackTrace();
            }
            return conn;
      }
}
```

STUDENT PROCESS CODE:

```
package com.school;

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.Scanner;

public class StudentManagement {

      private static Connection conn;
      private static PreparedStatement pst;
      private static ResultSet rs;

      public static void DisplayStudent() throws SQLException {
            conn=SchoolConnection.getConnection();
            String s="Select * from student ";
            pst=conn.prepareStatement(s);
            rs=pst.executeQuery();



      System.out.println("sid\tsname\tsphone\t\tsaddress\tfees\t\tfeespaid");
            while(rs.next()) {
                  int id=rs.getInt("sid");
                  String sn=rs.getString("sname");
                  int sph=rs.getInt("sphone");
                  String sadd=rs.getString("saddress");
                  float sfees=rs.getFloat("fees");
                  float sfpaid=rs.getFloat("feespaid");


      System.out.println(id+"\t"+sn+"\t"+sph+"\t"+sadd+"\t\t"+sfees+"\t\t"+sf
paid);
                  }
      }

      public static void AddStudent() throws SQLException {
            conn=SchoolConnection.getConnection();
            int id;
            String sn;
            int sph;
            String sadd;
            float sfees;
            float feespaid;

            Scanner sc=new Scanner(System.in);
            System.out.println("Enter student id");
            id=sc.nextInt();
```

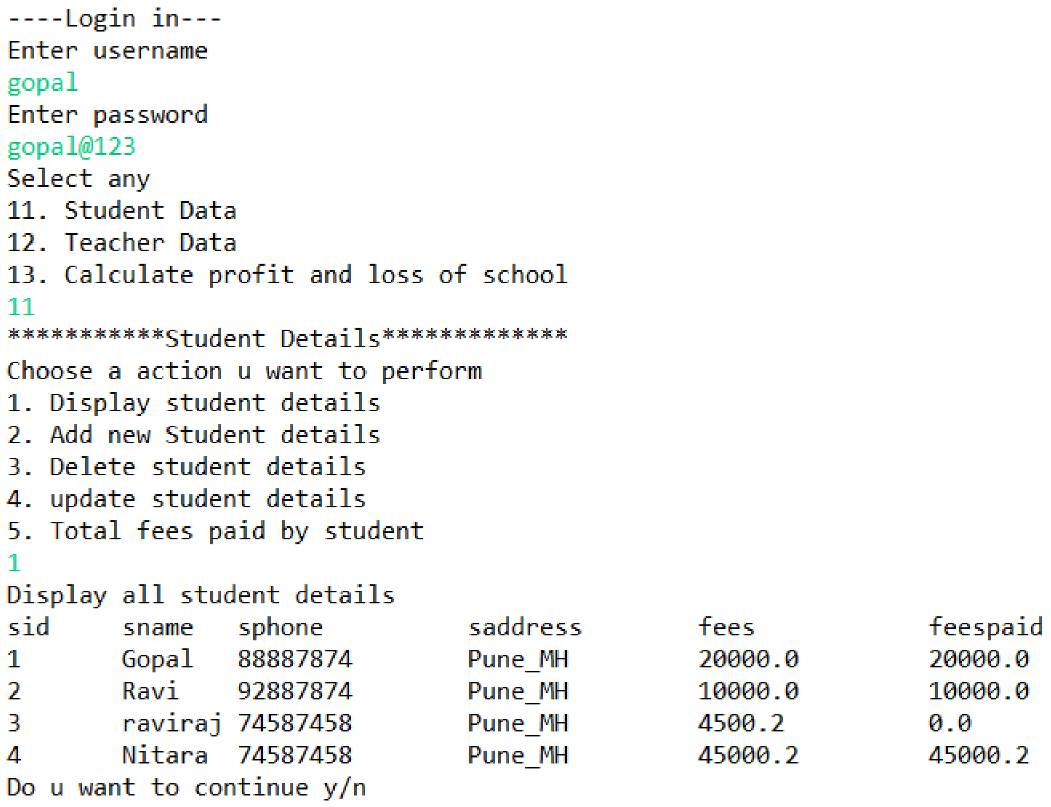
```
String s="Select * from student where sid=?";
 pst=conn.prepareStatement(s);
 pst.setInt(1, id);

 rs=pst.executeQuery();
 if(!rs.next()) {
System.out.println("Enter student name");
sn=sc.next();
System.out.println("Enter students phone number");
sph=sc.nextInt();
System.out.println("Enter student address");
sadd=sc.next();
System.out.println("Enter student fees");
sfees=sc.nextFloat();
System.out.println("Enter student paid fees");
feespaid=sc.nextFloat();



String sel="insert into student values(?,?,?,?,?,?)";
pst=conn.prepareStatement(sel);

pst.setInt(1, id);
pst.setString(2, sn);
pst.setInt(3, sph);
pst.setString(4, sadd);
pst.setFloat(5, sfees);
pst.setFloat(6, feespaid);

int rv=pst.executeUpdate();
```

```
      if(rv>0) {
            System.out.println("Record is inserted");
      }else {
            System.out.println("Not inserted");
      }
       }else {
             System.out.println("Student sid "+id+" already exists");
             System.out.println("Enter other sid if u want to insert");
       }
}

 public static void DeleteStudent() throws SQLException {
       conn=SchoolConnection.getConnection();
       int id;
       Scanner sc =new Scanner(System.in);
       System.out.println("Enter student id u want to delete");
       id=sc.nextInt();
       String s="Select * from student where sid=?";
       pst=conn.prepareStatement(s);
       pst.setInt(1, id);
       rs=pst.executeQuery();

       if(rs.next()) {
             String del="delete from student where sid=?";
             pst=conn.prepareStatement(del);
             pst.setInt(1, id);

             int rv=pst.executeUpdate();
             if(rv>0) {
                   System.out.println("Record has been deleted");
             }else {
                   System.out.println("Error while deleting record");
             }
       }else {
             System.out.println("Student sid "+id+" does not exists");
       }
 }
 public static void UpdateStudent() throws SQLException {
       conn=SchoolConnection.getConnection();
       int id;
       float sfpaid;
       Scanner sc = new Scanner(System.in);
       System.out.println("Enter student id you want to update");
       id=sc.nextInt();
       String s="select fees,feespaid from student where sid=?";
       pst=conn.prepareStatement(s);
       pst.setInt(1, id);
       rs=pst.executeQuery();
       float feespending;
       float totalfees=0;
       float feespaid=0;
       if(rs.next()) {
              totalfees=rs.getFloat("fees");
              feespaid=rs.getFloat("feespaid");


           feespending=totalfees-feespaid;
           System.out.println("Pending fees is = "+feespending);
           if(feespending !=0) {
                  System.out.println("Enter feespaid by student ");
                  sfpaid=sc.nextFloat();
                   String upd="update student set feespaid=? where sid=?";
                   pst=conn.prepareStatement(upd);
                   pst.setFloat(1, (sfpaid+feespaid));
                   pst.setInt(2, id);

                   int rv=pst.executeUpdate();

                   if(rv>0) {
                         System.out.println("Record has been updated");
                   }else {
                         System.out.println("Error!!!");
                   }
             }
             }else {
                   System.out.println(id+" sid does not exists");
             }

       }

       public static double TotalFeesPaid() throws SQLException {
             conn=SchoolConnection.getConnection();
              double value=0.0;
                 pst=conn.prepareStatement("select sum(feespaid) from student
");
                 rs = pst.executeQuery();
                 rs.next();
                 String sum = rs.getString(1);
                 System.out.println("feespaid by students = "+sum+" Rs");
```

```
                    value = Double.parseDouble(sum);

                    return value;

                }

            }
```

Java output:

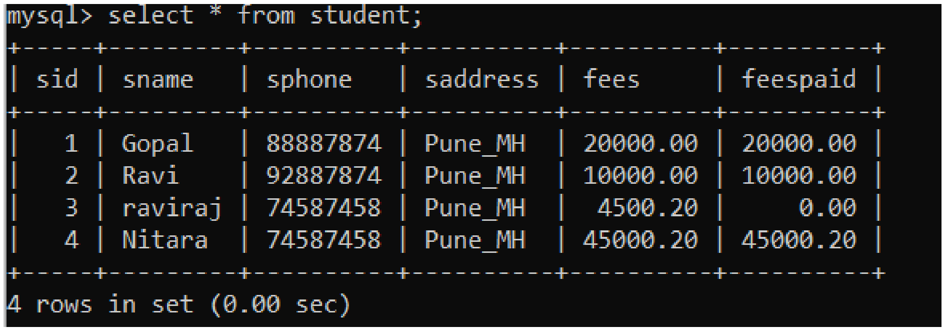
STUDENT output:



```
----Login in---
Enter username
gopal
Enter password
gopal@123
Select any
11. Student Data
12. Teacher Data
13. Calculate profit and loss of school
11
***********Student Details*************
Choose a action u want to perform
1. Display student details
2. Add new Student details
3. Delete student details
4. update student details
5. Total fees paid by student
1
Display all student details
sid     sname   sphone          saddress        fees            feespaid
1       Gopal   88887874        Pune_MH         20000.0         20000.0
2       Ravi    92887874        Pune_MH         10000.0         10000.0
3       raviraj 74587458        Pune_MH         4500.2          0.0
4       Nitara  74587458        Pune_MH         45000.2         45000.2
Do u want to continue y/n
```

Database output:

Student table:



```
mysql> select * from student;
+-----+---------+----------+----------+----------+----------+
| sid | sname   | sphone   | saddress | fees     | feespaid |
+-----+---------+----------+----------+----------+----------+
|   1 | Gopal   | 88887874 | Pune_MH  | 20000.00 | 20000.00 |
|   2 | Ravi    | 92887874 | Pune_MH  | 10000.00 | 10000.00 |
|   3 | raviraj | 74587458 | Pune_MH  |  4500.20 |     0.00 |
|   4 | Nitara  | 74587458 | Pune_MH  | 45000.20 | 45000.20 |
+-----+---------+----------+----------+----------+----------+
4 rows in set (0.00 sec)
```

Teacher process code:

```
package com.school;


import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.util.Scanner;


public class TeacherManagement {


      private static Connection conn;

      private static PreparedStatement pst;

      private static ResultSet rs;


      public static void DisplayTeacher() throws SQLException {

            conn=SchoolConnection.getConnection();

            String t="select * from teacher";

            pst=conn.prepareStatement(t);

            rs=pst.executeQuery();
```

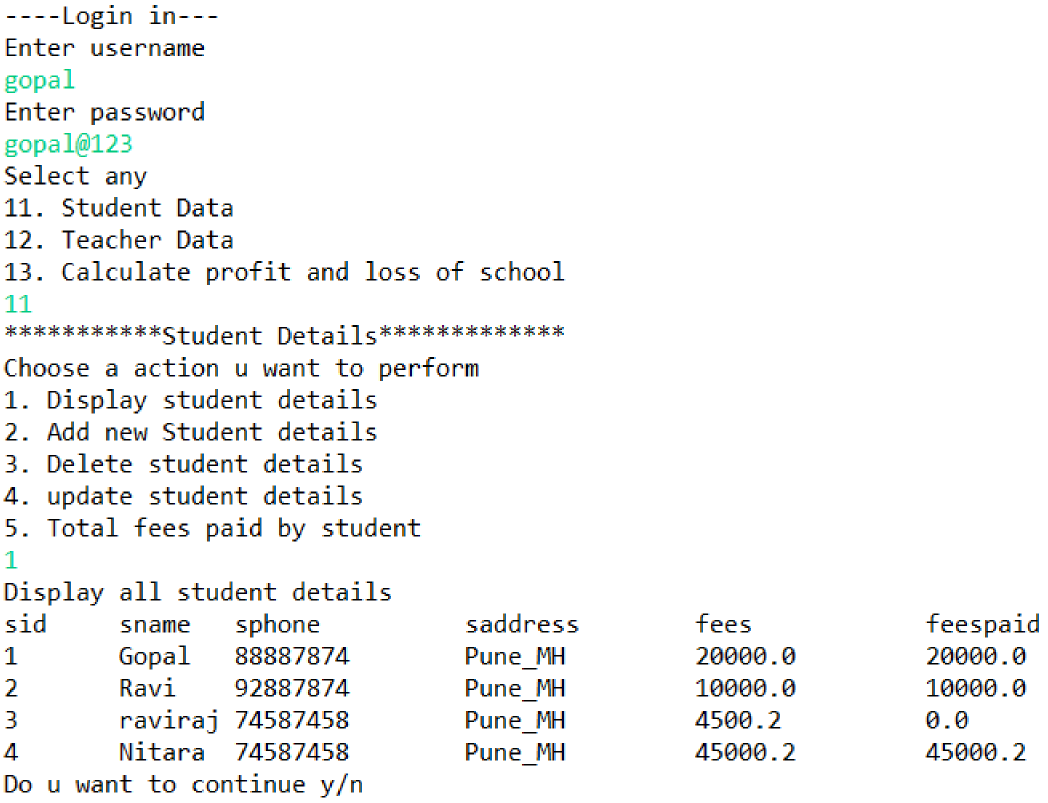
```
System.out.println("tid\ttsalary\t\ttsalarypaid\t\ttname\t\ttsubject");
      while(rs.next()) {
            int id=rs.getInt("tid");
            String tn=rs.getString("tname");
            String ts=rs.getString("tsubject");
            float tsal=rs.getFloat("tsalary");
            float tsalpaid=rs.getFloat("tsalarypaid");


System.out.println(id+"\t"+tsal+"\t\t"+tsalpaid+"\t\t\t"+tn+"\t\t"+ts);
      }
}

public static void AddTeacher() throws SQLException {
      conn=SchoolConnection.getConnection();
      int id;
      String tn;
      String tsub;
      float tsal;
      float tsalpaid;

      Scanner sc=new Scanner(System.in);
      System.out.println("Enter teacher id");
      id=sc.nextInt();
      String s="Select * from teacher where tid=?";
       pst=conn.prepareStatement(s);
       pst.setInt(1, id);
       rs=pst.executeQuery();
       if(!rs.next()) {
```

```
System.out.println("Enter teacher name");
tn=sc.next();
System.out.println("Enter teacher special subject ");
tsub=sc.next();
System.out.println("Enter teacher salary");
tsal=sc.nextFloat();
System.out.println("Enter salary paid to teacher");
tsalpaid=sc.nextFloat();




String t="insert into teacher values(?,?,?,?,?)";
pst=conn.prepareStatement(t);

pst.setInt(1, id);
pst.setString(2, tn);
pst.setString(3, tsub);
pst.setFloat(4, tsal);
pst.setFloat(5, tsalpaid);

int rv1=pst.executeUpdate();

if(rv1>0) {
      System.out.println("Record is inserted");
}else {
      System.out.println("Not inserted");
}
}else {
      System.out.println("Teacher tid "+id+" already exists");
```

```
            System.out.println("Enter some other tid to insert
record");
        }

    }

    public static void DeleteTeacher() throws SQLException {
        conn=SchoolConnection.getConnection();
        int id;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter teachers id you want to delete");
        id=sc.nextInt();

        String s = "select * from teacher where tid=?";
        pst=conn.prepareStatement(s);
        pst.setInt(1, id);
        rs=pst.executeQuery();

        if(rs.next()) {
            String del="delete from teacher where tid=?";
            pst=conn.prepareStatement(del);
            pst.setInt(1, id);

            int rv=pst.executeUpdate();

            if(rv>0) {
                System.out.println("Record has been deleted");
            }else {
                System.out.println("Error while deleting record");
            }
```

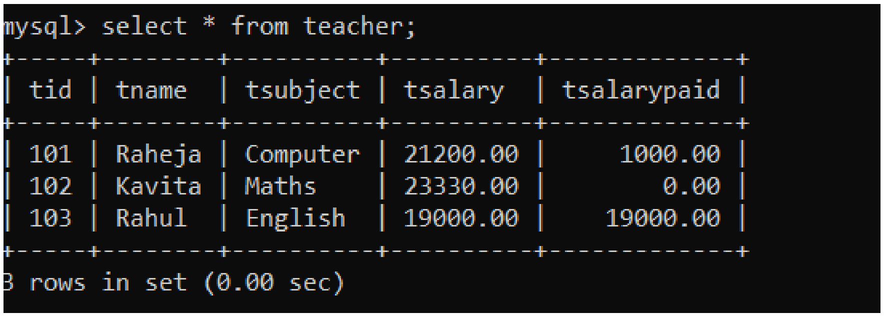
```
      }else {
            System.out.println("Teacher tid"+id+"does not exists");
      }

}
public static void UpdateTeacher() throws SQLException {
      conn=SchoolConnection.getConnection();
      int id;
      float tspaid;
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter teacher id u want update");
      id=sc.nextInt();
      String s="select tsalary,tsalarypaid from teacher where tid=?";
       pst=conn.prepareStatement(s);
       pst.setInt(1, id);
       rs=pst.executeQuery();
       float salarypending;
       float totalsalary=0;
       float salarypaid=0;
       if(rs.next()) {
              totalsalary=rs.getFloat("tsalary");
              salarypaid=rs.getFloat("tsalarypaid");


              salarypending=totalsalary-salarypaid;
           System.out.println("Pending salary is = "+salarypending);
           if(salarypending !=0) {
            System.out.println("Enter salary paid to teacher ");
            tspaid=sc.nextFloat();
             String upd="update teacher set tsalarypaid=? where tid=?";
            pst=conn.prepareStatement(upd);
            pst.setFloat(1, (tspaid+salarypaid));
            pst.setInt(2, id);

            int rv=pst.executeUpdate();

            if(rv>0) {
                System.out.println("Record has been updated");
            }else {
                System.out.println("Error!!!");
            }
        }
        }else {
            System.out.println(id+" tid does not exists");
        }

    }
    public static double TotalSalaryPaid() throws SQLException {
        conn=SchoolConnection.getConnection();
         double value=0.0;
          pst=conn.prepareStatement("select sum(tsalarypaid) from
teacher ");
          rs = pst.executeQuery();
          rs.next();
          String sum = rs.getString(1);
          System.out.println("Salarypaid to teachers = "+sum+" Rs");
          value = Double.parseDouble(sum);
          return value;
        }
}
```

java output:



```
----Login in---
Enter username
gopal
Enter password
gopal@123
Select any
11. Student Data
12. Teacher Data
13. Calculate profit and loss of school
11
***********Student Details*************
Choose a action u want to perform
1. Display student details
2. Add new Student details
3. Delete student details
4. update student details
5. Total fees paid by student
1
Display all student details
sid     sname   sphone          saddress        fees            feespaid
1       Gopal   88887874        Pune_MH         20000.0         20000.0
2       Ravi    92887874        Pune_MH         10000.0         10000.0
3       raviraj 74587458        Pune_MH         4500.2          0.0
4       Nitara  74587458        Pune_MH         45000.2         45000.2
Do u want to continue y/n
```

Database output:



```
mysql> select * from teacher;
+-----+--------+----------+----------+-------------+
| tid | tname  | tsubject | tsalary  | tsalarypaid |
+-----+--------+----------+----------+-------------+
| 101 | Raheja | Computer | 21200.00 |     1000.00 |
| 102 | Kavita | Maths    | 23330.00 |        0.00 |
| 103 | Rahul  | English  | 19000.00 |    19000.00 |
+-----+--------+----------+----------+-------------+
3 rows in set (0.00 sec)
```