

# Source Code

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package com.mphasis.devyani.zade.training;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.Scanner;

public class phaseEndProject {
    PreparedStatement thePreparedStatement;

    ResultSet theResultSet,secondResultSet;
    String qry;
    Connection dbCon;
    public phaseEndProject() {
        try {
            Class.forName("com.mysql.cj.jdbc.Driver");

            dbCon=DriverManager.getConnection("jdbc:mysql://localhost:3306/phase_end_pr
object","root","");

        } catch (ClassNotFoundException e) {
            System.out.println("Class issue:"+e.getMessage());
        } catch (SQLException e) {
            System.out.println("Connection issue:"+e.getMessage());
        }
    }

    public static void main(String[] args) {

        phaseEndProject ref= new phaseEndProject();
        try {
            ref.optionSelect();
        } catch (SQLException e) {
            System.out.println("Connection issue:"+e.getMessage());
        }
    }

    private void optionSelect() throws SQLException {
        System.out.println("Select An Option:\n1.View all Students\n2.View all
teachers\n3.View all Classes\n"
            + "4.View all Subjects\n5.Assign Class for a
subject\n6.Assign teachers to a class for a subject\n 7.View Class Report\n"
            + "8.Exit\nEnter your Choice:");
        Scanner scan=new Scanner(System.in);
        int choice=scan.nextInt();
        scan.nextLine();
    }
}
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boolean flag;
switch(choice) {

    case 1:
        studentList();
        optionSelect();
        break;

    case 2:
        teacherList();
        optionSelect();
        break;

    case 3:
        classList();
        optionSelect();
        break;

    case 4:
        subjectList();
        optionSelect();
        break;

    case 5:
        System.out.println("Assign Class for a Subject\n");
        classList();
        System.out.println("Enter the class id from the above list to
which you want to assign a class to:");
        int classId= scan.nextInt();
        scan.nextLine();
        System.out.println();
        subjectList();
        System.out.println("Enter the subject id from the above list to
assign to the class:");
        int subId=scan.nextInt();
        scan.nextLine();
        qry="insert into class_subject values(?,?)";
        thePreparedStatement=dbCon.prepareStatement(qry);
        thePreparedStatement.setInt(1, classId);
        thePreparedStatement.setInt(2, subId);
        try{
            thePreparedStatement.executeUpdate();
            System.out.println("The insertion is successful");
        }catch (SQLException e) {
            System.out.println("You have entered a wrong id");
            System.out.println();
        }

        optionSelect();
        break;

    case 6:
        System.out.println("Assign teachers to a class for a
subject\n");

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        teacherList();
        System.out.println("Enter the id of the teacher to be
assigned:");

        int teaId=scan.nextInt();
        scan.nextLine();
        classList();
        System.out.println("Enter the Class id to which you want to
assign the teacher to from the above list:");
        int clId=scan.nextInt();
        scan.nextLine();
        qry="select s.subject_id AS subject_id,s.subject_name AS
subject_name from subject AS s,class_subject AS cs where
(s.subject_id=cs.subject_id) AND (cs.class_id=?)";
        thePreparedStatement=dbCon.prepareStatement(qry);
        thePreparedStatement.setInt(1, clId);
        theResultSet = thePreparedStatement.executeQuery();
        flag=false;
        while(theResultSet.next()) {
            System.out.println("The Subject Id :
"+theResultSet.getInt("subject_id")+" and the Subject name is
"+theResultSet.getString("subject_name"));
            flag=true;
        }
        if(!flag) {
            System.out.println("No subjects assigned to the class
yet\n assign a subject first to assign a teacher");
            optionSelect();
            break;}
        System.out.println("Select the SubjectId from the Above
list:");

        int subjId=scan.nextInt();
        flag=false;
        theResultSet = thePreparedStatement.executeQuery();
        while(theResultSet.next()) {
            if(theResultSet.getInt("subject_id")==subjId)
                flag=true;
        }
        if(!flag) {
            System.out.println("You have entered the wrong subject
code\n Try again");
            optionSelect();
            break;}

        qry="insert into teacher_class_subject values(?,?,?)";
        thePreparedStatement=dbCon.prepareStatement(qry);
        thePreparedStatement.setInt(1, teaId);
        thePreparedStatement.setInt(2, clId);
        thePreparedStatement.setInt(3, subjId);
        if(thePreparedStatement.executeUpdate()>0) {
            System.out.println("The insertion is successful");
        }
        optionSelect();
        break;

    case 7:
        System.out.println("Class Report\n");
        flag=false;

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        qry="select * from class";
        thePreparedStatement=dbCon.prepareStatement(qry);
        theResultSet = thePreparedStatement.executeQuery();
        while(theResultSet.next())

        {System.out.println("Class:"+theResultSet.getString("class_name"));
            int i=theResultSet.getInt("class_id");
            qry="select student_name from students where class_id=?";
            thePreparedStatement=dbCon.prepareStatement(qry);
            thePreparedStatement.setInt(1, i);
            secondResultSet=thePreparedStatement.executeQuery();
            System.out.println("The students list:");
            while(secondResultSet.next()) {

                System.out.println(secondResultSet.getString("student_name"));
                flag=true;
            }
            if(!flag)
                System.out.println("No students are there in this
class");

            flag=false;
            System.out.println();

            qry="select s.subject_name from subject AS s, class_subject AS
cs where (s.subject_id = cs.subject_id) AND (cs.class_id=?)";
            thePreparedStatement=dbCon.prepareStatement(qry);
            thePreparedStatement.setInt(1, i);
            secondResultSet=thePreparedStatement.executeQuery();
            System.out.println("The subject list is:");
            while(secondResultSet.next()) {

                System.out.println(secondResultSet.getString("subject_name"));
                flag=true;
            }
            if(!flag)
                System.out.println("No subjects are assigned to this
class");

            flag=false;
            System.out.println();

            qry="select t.teacher_name AS teacher,s.subject_name AS subject
from teacher t , teacher_class_subject tc,subject s where (t.teacher_id =
tc.teacher_id) AND (s.subject_id = tc.sub_id) AND (tc.class_id = ?)";
            thePreparedStatement=dbCon.prepareStatement(qry);
            thePreparedStatement.setInt(1, i);
            secondResultSet=thePreparedStatement.executeQuery();
            System.out.println("The teacher list is :");
            while(secondResultSet.next()) {

                System.out.println(secondResultSet.getString("teacher")+
teaches
"+secondResultSet.getString("subject"));
                flag=true;
            }
            if(!flag)

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        System.out.println("No subjects are assigned to this
class");

        flag=false;
        System.out.println();
    }

    optionSelect();
    break;

case 8:
    System.out.println("Thankyou");
    break;

default:
    System.out.println("Wrong choice\n Try Again");
    optionSelect();
    break;

    }
}

private void subjectList() throws SQLException {
    System.out.println("The Subjects are :");
    qry = "select * from subject";
    thePreparedStatement = dbCon.prepareStatement(qry);
    theResultSet = thePreparedStatement.executeQuery();
    while(theResultSet.next()) {
        System.out.println("The          Subject          Id          :
"+theResultSet.getInt("subject_id")+and          the          Subject          name          is
"+theResultSet.getString("subject_name"));
    }
}

private void studentList() throws SQLException {
    System.out.println("The Students are:");
    qry = "select * from students";
    thePreparedStatement = dbCon.prepareStatement(qry);
    theResultSet = thePreparedStatement.executeQuery();
    while(theResultSet.next()) {
        System.out.println("The          Student          Id          :
"+theResultSet.getInt("student_id")+and the name of the student is
"+theResultSet.getString("student_name"));
    }
}

private void classList() throws SQLException {
    System.out.println("The classes are :");
    qry = "select * from class";
    thePreparedStatement = dbCon.prepareStatement(qry);
    theResultSet = thePreparedStatement.executeQuery();
    while(theResultSet.next()) {
        System.out.println("The          Class          Id          :
"+theResultSet.getInt("Class_id")+and the          Class          name          is
"+theResultSet.getString("class_name"));
    }
}

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    }
}

private void teacherList() throws SQLException {
    System.out.println("The teachers are :");
    qry = "select * from teacher";
    thePreparedStatement = dbCon.prepareStatement(qry);
    theResultSet = thePreparedStatement.executeQuery();
    while(theResultSet.next()) {
        System.out.println("The      Teacher      Id      :
"+theResultSet.getInt("teacher_id")+" and the name of the Teacher is
"+theResultSet.getString("teacher_name"));
    }
}
}

```