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**BESE 6B**

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**Lab 6**

**Task 1:**

**package** lab;

**import** java.util.\*;

**public** **class** main {

**public** **static** **void** main(String[] args) {

String[][] Student = **new** String[6][3];

Scanner input = **new** Scanner(System.***in***);

String S1= "Enter the ";

String S2 = "of the Student:";

String[] PromptText = {S1 + "Name " + S2,

S1 + "Registration Number " + S2,

S1 + "CGPA " + S2};

**for**(**int** i = 0; i < Student.length; i++){

**for**(**int** j = 0; j < Student[0].length; j++){

System.***out***.println(PromptText[j]);

Student[i][j] = input.nextLine();

**if**(j == 2){

**while**(Double.*parseDouble*(Student[i][j]) < 0.0 || Double.*parseDouble*(Student[i][j]) > 4.0){

System.***out***.println("Incorrect value for CGPA");

System.***out***.println(PromptText[j]);

Student[i][j] = input.nextLine();

}

}

**if**(j == 1){

**for**(**int** k = i - 1; k >= 0; k--){

**if**(Student[k][j].equals(Student[i][j])){

**boolean** flag = **false**;

**int** t = Integer.*parseInt*(Student[k][j]);

**while**(t == Integer.*parseInt*(Student[i][j])){

System.***out***.println("Duplicate Registration Number");

System.***out***.println(PromptText[j]);

Student[i][j] = input.nextLine();

k = i - 1;

}

}

}

}

}

}

String[] OutputString = {"Student Name: ", "Reg Number:", "CGPA:"};

**for**(**int** i = 0; i < Student.length; i++){

**for**(**int** j = 0; j < Student[0].length; j++){

System.***out***.println(OutputString[j]);

System.***out***.println(Student[i][j]);

}

}

**double** min = Double.*parseDouble*(Student[0][2]);

**double** max = Double.*parseDouble*(Student[0][2]);

**double** average = Double.*parseDouble*(Student[0][2]);

**for**(**int** i = 1; i < Student.length; i++){

**if**(Double.*parseDouble*(Student[i][2]) < min){

min = Double.*parseDouble*(Student[i][2]);

}

**if**(Double.*parseDouble*(Student[i][2]) > max){

min = Double.*parseDouble*(Student[i][2]);

}

average += Double.*parseDouble*(Student[i][2]);

}

average /= Student.length;

System.***out***.println("Minimum CGPA:");

System.***out***.println(min);

System.***out***.println("Maximum CGPA:");

System.***out***.println(max);

System.***out***.println("Average CGPA:");

System.***out***.println(average);

System.***out***.println("Student with less than average CGPA:");

**for**(**int** i = 0; i < Student.length; i++){

**if**(Double.*parseDouble*(Student[i][2]) < average)

System.***out***.println(Student[i][0]);

}

System.***out***.println("Search By Name for CGPA:");

System.***out***.println("Enter the name of the student:");

String name = input.nextLine();

**for**(**int** i = 0; i < Student.length; i++){

**if**(Student[i][0].equals(name.trim())){

System.***out***.println("CGPA of " + name + " is:");

System.***out***.println(Student[i][2]);

**int** position = 1;

**for**(**int** k = 0; k < Student.length; k++){

**if**(k == i) **continue**;

**if**(Double.*parseDouble*(Student[k][2]) > Double.*parseDouble*(Student[i][2]))

position++;

}

System.***out***.println("Rank of " + name + " is:");

System.***out***.println(position);

**break**;

}

}

}

}

**Task 2:**

**import** java.sql.\*;

**import** java.util.Scanner;

**public** **class** main{

// JDBC driver name and database URL

**static** **final** String ***JDBC\_DRIVER*** = "com.mysql.jdbc.Driver";

**static** **final** String ***DB\_URL*** = "jdbc:mysql://localhost/student";

// Database credentials

**static** **final** String ***USER*** = "root";

**static** **final** String ***PASS*** = "1234";

**public** **static** **void** main(String[] args) {

Connection conn = **null**;

Statement stmt = **null**;

**try**{

//STEP 2: Register JDBC driver

Class.*forName*("com.mysql.jdbc.Driver");

//STEP 3: Open a connection

System.***out***.println("Connecting to database...");

conn = DriverManager.*getConnection*(***DB\_URL***, ***USER***, ***PASS***);

Statement st = conn.createStatement();

st.executeQuery("select \* from data");

ResultSet rs = st.getResultSet();

**while**(rs.next()) {

System.***out***.println(rs.getString("Reg\_no"));

System.***out***.println(rs.getString("name"));

System.***out***.println(rs.getString("class"));

System.***out***.println(rs.getString("section"));

System.***out***.println(rs.getString("contact"));

System.***out***.println(rs.getString("address"));

}

System.***out***.println("Select 1 to Add data and 2 to Delete record");

Scanner reader = **new** Scanner(System.***in***);

**int** n = reader.nextInt();

**if**(n==1){

System.***out***.println("Enter Reg\_no");

String r = reader.next();

System.***out***.println("Enter Name:");

String na = reader.next();

System.***out***.println("Enter class");

String c = reader.next();

System.***out***.println("Enter section");

String s = reader.next();

System.***out***.println("Enter contact");

String ct = reader.next();

System.***out***.println("Enter Address");

String a = reader.next();

Statement statement = conn.createStatement();

statement.executeUpdate("INSERT INTO data (Reg\_no, name,class,section,contact,address) VALUES ('" + r + "','" + na + "','" + c + "','" + s + "' ,'" + st + "' ,'" + a + "')");

}

**if**(n==2){

System.***out***.println("Enter Reg\_no to delete");

String reg = reader.next();

stmt = conn.createStatement();

String sql = "DELETE FROM data " +

"WHERE id =" + reg;

stmt.executeUpdate(sql);

}

}**catch**(SQLException se){

//Handle errors for JDBC

se.printStackTrace();

}**catch**(Exception e){

//Handle errors for Class.forName

e.printStackTrace();

}**finally**{

//finally block used to close resources

**try**{

**if**(stmt!=**null**)

stmt.close();

}**catch**(SQLException se2){

}// nothing we can do

**try**{

**if**(conn!=**null**)

conn.close();

}**catch**(SQLException se){

se.printStackTrace();

}//end finally try

}//end try

}//end main

}//end JDBCExample

Git link