JDBC PROJECT

Project Name- Performing CURD operations using JDBC

Code →

```
import java.sql.*;
import java.util.Scanner;

public class StudentOperation {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);



        String url = "jdbc:mysql://localhost:3306/testdb";
        String user = "root";
        String pass = "password";

        try {

            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection conn = DriverManager.getConnection(url, user,
pass);
```

```
        Statement stmt = conn.createStatement();
        stmt.execute("CREATE TABLE IF NOT EXISTS student (" +
            "id INT PRIMARY KEY, " +
            "name VARCHAR(100), " +
            "email VARCHAR(100), " +
            "age INT, " +
            "course VARCHAR(100), " +
            "grade VARCHAR(10))");

        //  Insert student
        System.out.println("Enter Student Details (id, name, email, age, course, grade):");
        int id = sc.nextInt();
        sc.nextLine();
        String name = sc.nextLine();
        String email = sc.nextLine();
        int age = sc.nextInt();
        sc.nextLine();
        String course = sc.nextLine();
        String grade = sc.nextLine();

        PreparedStatement insert = conn.prepareStatement("INSERT INTO student VALUES (?, ?, ?, ?, ?, ?)");
```

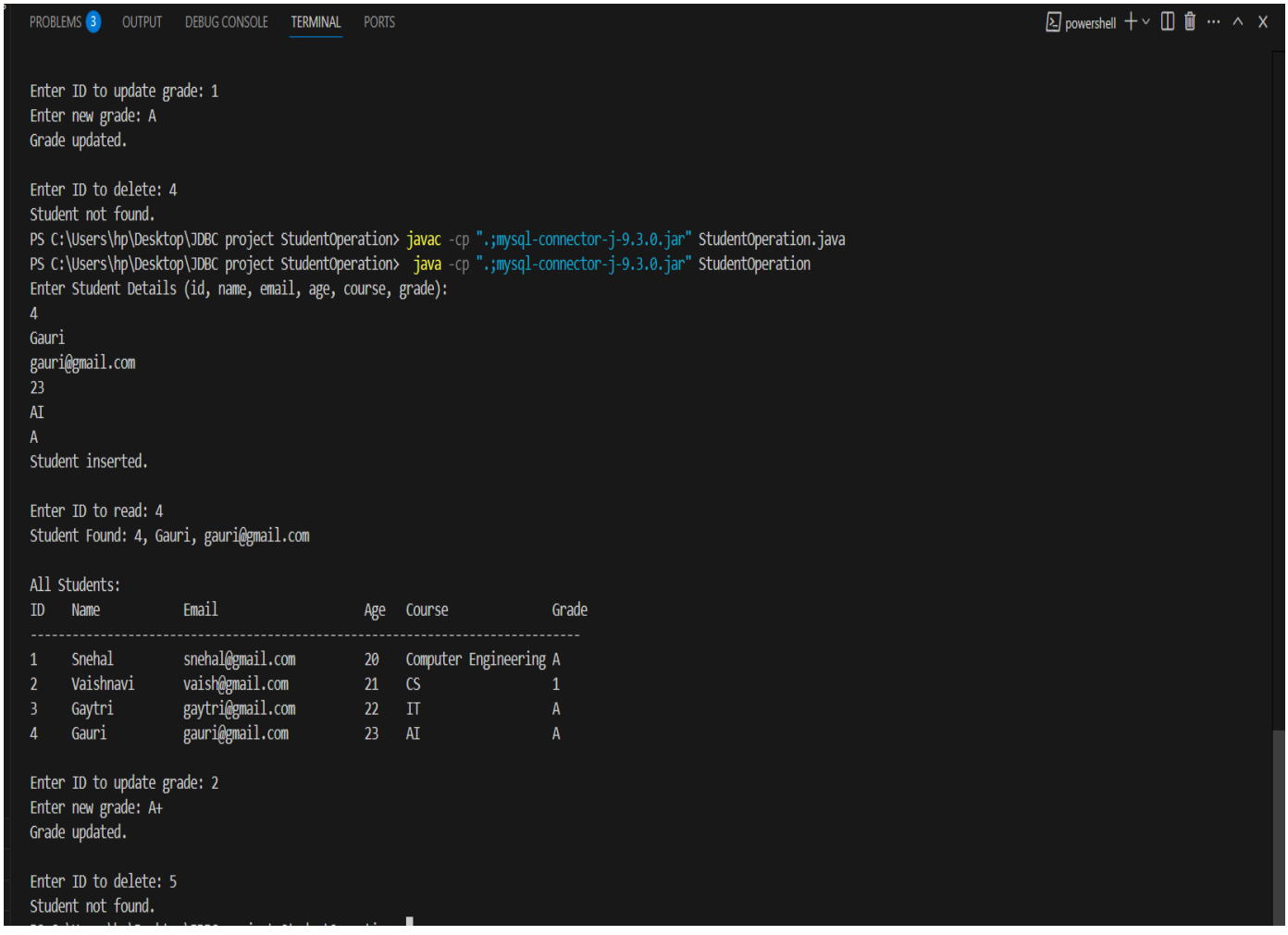
```
            insert.setInt(1, id);
            insert.setString(2, name);
            insert.setString(3, email);
            insert.setInt(4, age);
            insert.setString(5, course);
            insert.setString(6, grade);
            insert.executeUpdate();
            System.out.println("Student inserted.\n");

            // Read student by ID
            System.out.print("Enter ID to read: ");
            int readId = sc.nextInt();
            PreparedStatement readStmt =
conn.prepareStatement("SELECT * FROM student WHERE id=?");
            readStmt.setInt(1, readId);
            ResultSet rs = readStmt.executeQuery();
            if (rs.next()) {
                System.out.println("Student Found: " + rs.getInt(1) + ", " +
rs.getString(2) + ", " + rs.getString(3));
            } else {
                System.out.println("Student not found.");
            }

            //  Read all students
```

```
        System.out.println("\nAll Students:");
        System.out.printf("%-5s %-15s %-25s %-5s %-20s %-10s\n",
            "ID", "Name", "Email", "Age", "Course", "Grade");
        System.out.println("----------------------------------------------------------------------");

        ResultSet allRs = stmt.executeQuery("SELECT * FROM student");
        while (allRs.next()) {
        System.out.printf("%-5d %-15s %-25s %-5d %-20s %-10s\n",
         allRs.getInt("id"),
         allRs.getString("name"),
         allRs.getString("email"),
         allRs.getInt("age"),
         allRs.getString("course"),
         allRs.getString("grade"));
}

         // Update grade by ID
         System.out.print("\nEnter ID to update grade: ");
         int updateId = sc.nextInt();
         sc.nextLine();
         System.out.print("Enter new grade: ");
         String newGrade = sc.nextLine();
```

```
            PreparedStatement update =
conn.prepareStatement("UPDATE student SET grade=? WHERE
id=?");
            update.setString(1, newGrade);
            update.setInt(2, updateId);
            int rowsUpdated = update.executeUpdate();
            System.out.println(rowsUpdated > 0 ? "Grade updated." :
"Student not found.");

            // Delete student by ID
            System.out.print("\nEnter ID to delete: ");
            int deleteId = sc.nextInt();
            PreparedStatement delete = conn.prepareStatement("DELETE
FROM student WHERE id=?");
            delete.setInt(1, deleteId);
            int rowsDeleted = delete.executeUpdate();
            System.out.println(rowsDeleted > 0 ? "Student deleted." :
"Student not found.");



            conn.close();
            sc.close();

        } catch (Exception e) {
            e.printStackTrace();
```

```
        }
    }
}
```

Output →



```
PROBLEMS 3  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS                                  powershell

Enter ID to update grade: 1
Enter new grade: A
Grade updated.

Enter ID to delete: 4
Student not found.
PS C:\Users\hp\Desktop\JDBC project StudentOperation> javac -cp ".;mysql-connector-j-9.3.0.jar" StudentOperation.java
PS C:\Users\hp\Desktop\JDBC project StudentOperation>  java -cp ".;mysql-connector-j-9.3.0.jar" StudentOperation
Enter Student Details (id, name, email, age, course, grade):
4
Gauri
gauri@gmail.com
23
AI
A
Student inserted.

Enter ID to read: 4
Student Found: 4, Gauri, gauri@gmail.com

All Students:
ID    Name          Email                 Age   Course             Grade
--------------------------------------------------------------------------
1     Snehal        snehal@gmail.com      20    Computer Engineering A
2     Vaishnavi     vaish@gmail.com       21    CS                 1
3     Gaytri        gaytri@gmail.com      22    IT                 A
4     Gauri         gauri@gmail.com       23    AI                 A

Enter ID to update grade: 2
Enter new grade: A+
Grade updated.

Enter ID to delete: 5
Student not found.
```

Output from MySQL Command line →