Assignment No. 15

- **TITLE :** Demonstration of Object Oriented Programming using Java and database through JDBC

- **CODE:**

1. JDBC Connection

```
package prac15;
import java.sql.*;
import java.io.*;

public class JdbcConnection {

       private static final String USER="jdbc:mysql://localhost:3306/student";
       private static final String Root="root";
       private static final String pswd="admin";

       public static void main(String args[])throws
IOException,ClassNotFoundException
       {
       Class.forName("com.mysql.jdbc.Driver");
       try(Connection con=DriverManager.getConnection(USER,Root,pswd))
       {
        System.out.println("Connected Successfully");

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

Output - Connected Successfully

2. Register

```
package prac15;
import java.sql.*;
import java.util.Scanner;

public class Register {
    public static void main(String[] args) {
        String url = "jdbc:mysql://localhost:3306/student";
        String user = "root";
        String password = "admin";

        try {
            Class.forName("com.mysql.jdbc.Driver");
            Connection connection = DriverManager.getConnection(url, user,
password);

            if (connection != null) {
                System.out.println("Connected to the database!");

                String createTableSQL = "CREATE TABLE IF NOT EXISTS students (id
VARCHAR(50) PRIMARY KEY, name VARCHAR(100), email VARCHAR(100), password
VARCHAR(100))";
```

```
                Statement stmt = connection.createStatement();
                stmt.executeUpdate(createTableSQL);
                System.out.println("Table 'students' is ready.");

                Scanner scanner = new Scanner(System.in);
                System.out.print("Enter ID: ");
                String id = scanner.nextLine();
                System.out.print("Enter Name: ");
                String name = scanner.nextLine();
                System.out.print("Enter Email: ");
                String email = scanner.nextLine();
                System.out.print("Enter Password: ");
                String pass = scanner.nextLine();

                String insertSQL = "INSERT INTO students (id, name, email,
password) VALUES (?, ?, ?, ?)";
                PreparedStatement pstmt = connection.prepareStatement(insertSQL);
                pstmt.setString(1, id);
                pstmt.setString(2, name);
                pstmt.setString(3, email);
                pstmt.setString(4, pass);
                pstmt.executeUpdate();

                System.out.println("Data inserted successfully!");

                scanner.close();
                stmt.close();
                pstmt.close();
                connection.close();
            }
        } catch (ClassNotFoundException e) {
            System.out.println("MySQL JDBC Driver not found!");
            e.printStackTrace();
        } catch (SQLException e) {
            System.out.println("Connection failed!");
            e.printStackTrace();
        }
    }
}
```

Output -

```
Connected to the database!
Table 'students' is ready.
Enter ID: 100
Enter Name: Virat Kohli
Enter Email: virat@gmail.com
Enter Password: 12345
Data inserted successfully!
```

2. Login

```
package prac15;
import java.sql.*;
import java.util.Scanner;

public class Login {
    public static void main(String[] args) {
        String url = "jdbc:mysql://localhost:3306/student";
        String user = "root";
        String password = "admin";

        try {
```

```
            Class.forName("com.mysql.jdbc.Driver");
            Connection connection = DriverManager.getConnection(url, user,
password);

            if (connection != null) {
                System.out.println("Connected to the database!");

                Scanner scanner = new Scanner(System.in);
                System.out.print("Enter ID: ");
                String id = scanner.nextLine();
                System.out.print("Enter Password: ");
                String pass = scanner.nextLine();

                String loginSQL = "SELECT * FROM students WHERE id = ? AND
password = ?";
                PreparedStatement pstmt = connection.prepareStatement(loginSQL);
                pstmt.setString(1, id);
                pstmt.setString(2, pass);

                ResultSet resultSet = pstmt.executeQuery();

                if (resultSet.next()) {
                    String name = resultSet.getString("name");
                    String email = resultSet.getString("email");
                    System.out.println("Logged in successfully!");
                    System.out.println("Welcome, " + name + "!");
                    System.out.println("Email: " + email);
                    System.out.println("ID: " + id);
                } else {
                    System.out.println("Invalid ID or password!");
                }

                scanner.close();
                resultSet.close();
                pstmt.close();
                connection.close();
            }
        } catch (ClassNotFoundException e) {
            System.out.println("MySQL JDBC Driver not found!");
            e.printStackTrace();
        } catch (SQLException e) {
            System.out.println("Connection failed!");
            e.printStackTrace();
        }
    }
}
```

Output –

```
Connected to the database!
Enter ID: 100
Enter Password: 12345
Logged in successfully!
Welcome, Virat Kohli!
Email: virat@gmail.com
ID: 100
```

MySQL

```
mysql> select * from students;
+-----+-------------+-----------------+----------+
| id  | name        | email           | password |
+-----+-------------+-----------------+----------+
| 100 | Virat Kohli | virat@gmail.com | 12345    |
| 11  | Apurv       | apurv@gmail.com | 12345678 |
+-----+-------------+-----------------+----------+
2 rows in set (0.00 sec)
```

- **Conclusion –** In this assignment, we have established a connection with MySQL database using a jdbc-driver and implemented a simple user login and register form.