NAME : PRASANNA REDDY MANDHALA

JDBC CRUD OPERATIONS

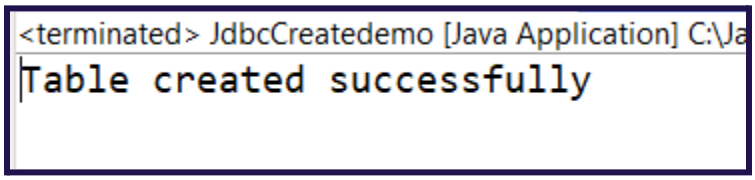
Q.1 You need to create a table named employees in the database to store employee information. Write a Java program using JDBC to create the employees table with the following columns:

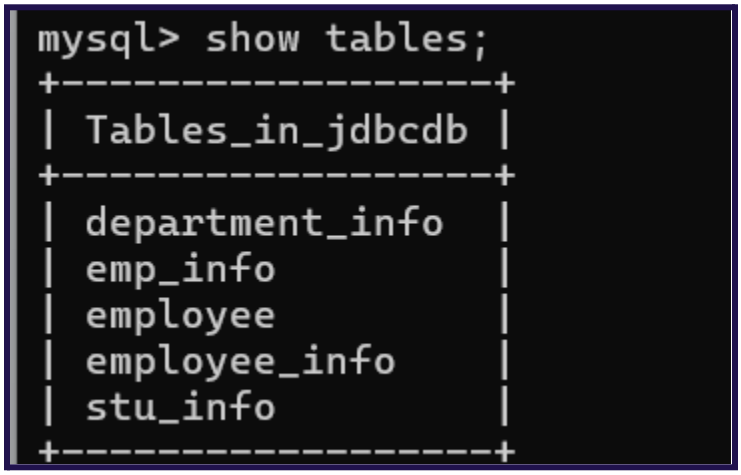
id of type INT, which is the primary key and auto-incremented.

first_name of type VARCHAR(50) to store the employee's first name.
last_name of type VARCHAR(50) to store the employee's last name.
age of type INT to store the employee's age.

```java
package com.Prasanna.Jdbc;
import java.sql.*;
public class JdbcCreatedemo {
    public static void main(String[] args) throws Exception {
        // Load the JDBC driver
        Class.forName("com.mysql.cj.jdbc.Driver");

        // Create a new table under the Jdbcdb database
          String sql_query = "CREATE TABLE emp_info (id INT AUTO_INCREMENT PRIMARY KEY, first_name VARCHAR(50), last_name VARCHAR(50), age INT)";
        //  the connection
        Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbcdb?autoReconnect=true&useSSL=false", "root", "root");

        // Create a statement
        Statement st = con.createStatement();

        // Execute the SQL query to create the table
        st.executeUpdate(sql_query);

        // Confirmation message
        System.out.println("Table created successfully");

        // Close the resources
        st.close();
        con.close();
    }
}
```

OUTPUT:





Q.2 The employees table in the database has the following columns: id, first_name, last_name, and age. Write a Java program using JDBC to insert a new employee record into the table. The employee's first name is "John," last name is "Doe," and age is 30

```java
package com.Prasanna.Jdbc;
import java.sql.*;
public class Insertdemo1{

	public static void main(String[] args) throws Exception{

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

		String jdbc_url = "jdbc:mysql://localhost:3306/jdbcdb";

		String user = "root";

		String pwd="root";

		Connection con=DriverManager.getConnection(jdbc_url,user,pwd);

//		Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbcdb"root","root");

		Statement st = con.createStatement();

		//inserting the records:


		String insert_data = "insert into emp_info values(8,'John','Doe',30)";


		//st.executeUpdate(insert_data);

		// optional

		int updateCount_row = st.executeUpdate(insert_data);

		System.out.println("the number rows inserted :"+updateCount_row);

		//con.close();


	}

   }
```

OUTPUT:

```
the number rows inserted :1
```

Q.3 Write a Java program that updates the age and designation of an employee with the given name. Assume that the connection to the database is established using the provided url, username, and password. The program should update the age and designation columns for the employee specified by their name.

```java
package com.Prasanna.Jdbc;
import java.sql.*;
public class Update {
public static void main(String[] args) {
    try {
        // TODO Auto-generated method stub
         Class.forName("com.mysql.cj.jdbc.Driver");

         String jdbc_url = "jdbc:mysql://localhost:3306/jdbcdb";

         String user = "root";

         String pwd="root";

         Connection con=DriverManager.getConnection(jdbc_url,user,pwd);

//          Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbcdb"root","root");

         Statement st = con.createStatement();

         //add the  column to existing emp_info table:

         String update_data = "alter table emp_info add (designation varchar(20))";

        // st.executeUpdate(update_data);

         // optional

         int updateCount_row = st.executeUpdate(update_data);

         System.out.println("the number rows updated:"+updateCount_row);

         //con.close();

    }
    catch(Exception E) {}
}
}
```

OUTPUT:

By using Alter command designation column is added to The emp_info table.

```
Sat Jul 27 12:03:52 IST 2024
the number rows updated:0
```

```java
package com.Prasanna.Jdbc;
import java.sql.*;
public class Update1 {
    public static void main(String[] args) {
        try {
            // Load the MySQL JDBC driver
            Class.forName("com.mysql.cj.jdbc.Driver");

            // Establish the connection with SSL disabled
            String jdbc_url = "jdbc:mysql://localhost:3306/jdbcdb?useSSL=false";
            String user = "root";
            String pwd = "root";
            Connection con = DriverManager.getConnection(jdbc_url, user, pwd);

            // Create a statement
            Statement st = con.createStatement();

            // Update the data
            String update_data = "UPDATE emp_info SET age = 45, designation = 'database developer' WHERE last_name= 'doe'";
            int updateCount_row = st.executeUpdate(update_data);

            // Print the number of rows updated
            System.out.println("The number of rows updated: " + updateCount_row);

            // Close the connection
            st.close();
            con.close();
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
}
```

0UTPUT:

```
<terminated> Update1 [Java Application] C:\Java\jdk-2
The number of rows updated: 6
```

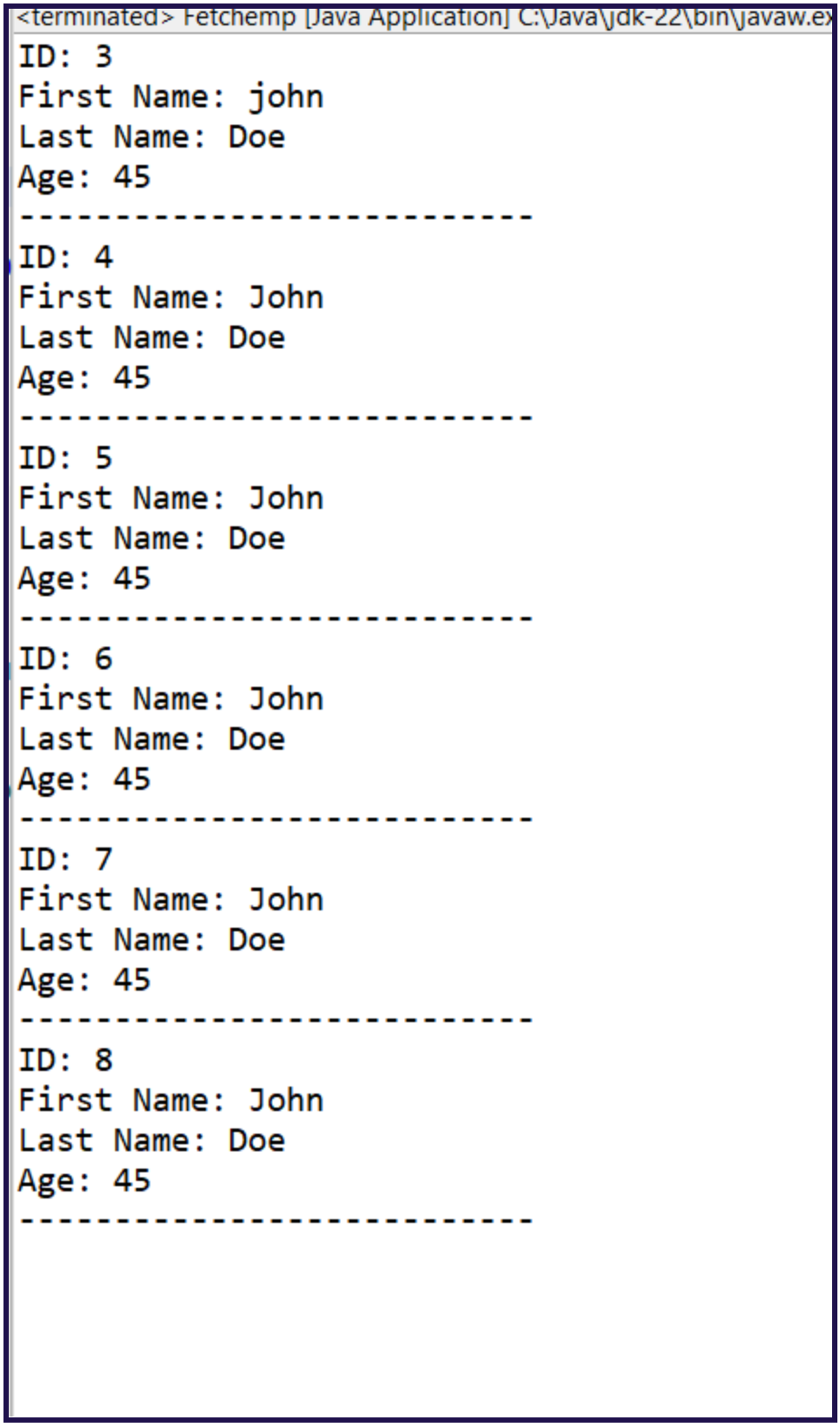
```
mysql> select* from emp_info;
+----+------------+-----------+------+--------------------+
| id | first_name | last_name | age  | designation        |
+----+------------+-----------+------+--------------------+
|  2 | jannu      | anu       |   40 | NULL               |
|  3 | john       | Doe       |   45 | database developer |
|  4 | John       | Doe       |   45 | database developer |
|  5 | John       | Doe       |   45 | database developer |
|  6 | John       | Doe       |   45 | database developer |
|  7 | John       | Doe       |   45 | database developer |
|  8 | John       | Doe       |   45 | database developer |
+----+------------+-----------+------+--------------------+
7 rows in set (0.00 sec)
```

Q.4 Write Java program fetching data from emp table query using jdbc with mysql.

```java
package com.Prasanna.Jdbc;
import java.sql.*;
public class Fetchemp {
    public static void main(String[] args) {
        try {
            // Step 1: Load the JDBC driver
            Class.forName("com.mysql.cj.jdbc.Driver");

            // Step 2: Establish the connection
            Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbcdb?autoReconnect=true&useSSL=false", "root", "root");

            // Step 3: Create a statement
            Statement st = con.createStatement();

            // Step 4: Execute a query
            ResultSet rs = st.executeQuery("SELECT * FROM emp_info");

            // Step 5: Process the result set
            while (rs.next()) {
                // Replace getInt/getString methods with appropriate ones as per your table's data types
                int id = rs.getInt("id"); // Replace with your column name
                String firstName = rs.getString("first_name"); // Replace with your column name
                String lastName = rs.getString("last_name"); // Replace with your column name
                int age = rs.getInt("age"); // Replace with your column name

                System.out.println("ID: " + id);
                System.out.println("First Name: " + firstName);
                System.out.println("Last Name: " + lastName);
                System.out.println("Age: " + age);
                System.out.println("--------------------------");
            }
            // Step 6: Close the resources
            rs.close();
            st.close();
            con.close();
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
}
```

OUTPUT:

```
mysql> select* from emp_info;
+----+------------+-----------+------+--------------------+
| id | first_name | last_name | age  | designation        |
+----+------------+-----------+------+--------------------+
|  3 | john       | Doe       |   45 | database developer |
|  4 | John       | Doe       |   45 | database developer |
|  5 | John       | Doe       |   45 | database developer |
|  6 | John       | Doe       |   45 | database developer |
|  7 | John       | Doe       |   45 | database developer |
|  8 | John       | Doe       |   45 | database developer |
+----+------------+-----------+------+--------------------+
6 rows in set (0.00 sec)
```


<terminated> Fetchemp [Java Application] C:\Java\jdk-22\bin\javaw.ex
ID: 3
First Name: john
Last Name: Doe
Age: 45

ID: 4
First Name: John
Last Name: Doe
Age: 45

ID: 5
First Name: John
Last Name: Doe
Age: 45

ID: 6
First Name: John
Last Name: Doe
Age: 45

ID: 7
First Name: John
Last Name: Doe
Age: 45

ID: 8
First Name: John
Last Name: Doe
Age: 45

Q.5 Write Java program for deleting data from emp table using jdbc with mysql.

```java
package com.Prasanna.Jdbc;
import java.sql.*;
public class Delete {

    public static void main(String[] args) throws Exception{
          Class.forName("com.mysql.cj.jdbc.Driver");

          Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbcdb?autoReconnect=true&useSSL=false","root","root");

            Statement st = con.createStatement();

            //deleting the records

            String delete_record = "delete from emp_info where ID=7";

            System.out.println("Deleteing the record done successfully");
            int delete_record_row = st.executeUpdate(delete_record);
            System.out.println("the number rows deleted :"+delete_record_row);

            con.close();
    }

    }
```

OUTPUT:

```
<terminated> Delete [Java Application] C:\Java\jdk-22\bin\javaw.exe
Deleteing the record done successfully
```

```
mysql> select* from emp_info;
+----+------------+-----------+------+--------------------+
| id | first_name | last_name | age  | designation        |
+----+------------+-----------+------+--------------------+
|  3 | john       | Doe       |   45 | database developer |
|  4 | John       | Doe       |   45 | database developer |
|  5 | John       | Doe       |   45 | database developer |
|  6 | John       | Doe       |   45 | database developer |
|  8 | John       | Doe       |   45 | database developer |
+----+------------+-----------+------+--------------------+
5 rows in set (0.00 sec)
```