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Experiment 5: Implement Embedded SQL and Dynamic SQL

1. Create a table Teacher with attributes id, emp_id, name, department, address, contact.

create table teacher(id varchar(20), name varchar(20), departmemt varchar(20), address varchar(20), contact varchar(20))

```
Table created.
```

2. Create a table Teacher with attributes id, emp_id, name, department, address, contact.

```
insert into teacher values('E1', 'Ravi', 'CSE', 'Mumbai', 9456723450)
insert into teacher values('E2', 'Tina', 'AIML', 'Pune', 8736492301)
insert into teacher values('E3', 'Raj', 'CSE', 'Kolhapur', 7829034658)
insert into teacher values('E4', 'Madhuri', 'Civil', 'Sangli', 9959310830)
```

```
1 row(s) inserted.
```

select * from teacher

ID	NAME	DEPARTMEMT	ADDRESS	CONTACT
E1	Ravi	CSE	Mumbai	9456723450
E2	Tina	AIML	Pune	8736492301
E3	Raj	CSE	Kolhapur	7829034658
E4	Madhuri	Civil	Sangli	9959310830

3. Write Java Program to Embed SQL Code for database connectivity.

```
import java.sql.*;
public class AnushkaSample {
   public static void main(String[] args) {
      try {
         // Step 1: Load the driver class
         Class.forName("oracle.jdbc.driver.OracleDriver");
         // Step 2: Create the connection object
         Connection con = DriverManager.getConnection(
            "jdbc:oracle:thin:@localhost:1521:XE", "anushka", "amoghnevgi");
         // Step 3: Create the statement object
         Statement stmt = con.createStatement();
         // Step 4: Execute query
         ResultSet rs;
         rs = stmt.executeQuery("SELECT * FROM teacher");
         while (rs.next()) {
            System.out.println(
               rs.getString(1) + "  " +
               rs.getString(2) + "  " +
               rs.getString(3) + "  " +
               rs.getString(4) + "  " +
               rs.getString(5)
            );
         }
         con.close();
      } catch (Exception e) {
         System.out.println(e);
      }
   }
}
```

```
D:\Anushka>javac anushka_sample.java

D:\Anushka>java anushka_sample
E1  Ravi  CSE  Mumbai  9456723450
E2  Tina  AIML  Pune  8736492301
E3  Raj  CSE  Kolhapur  7829034658
E4  Madhuri  Civil  Sangli  9959310830
```

4. Find name and address of all the employees using Java code created in Q.3.

```
// Step 4: Execute query
         ResultSet rs;
```

```
        rs = stmt.executeQuery("SELECT name, address
FROM teacher");
        while (rs.next()) {
           System.out.println(
              rs.getString(1) + "  " +
              rs.getString(2) + "  "
           );
        }
```

```
D:\Anushka>javac anushka_sample.java

D:\Anushka>java anushka_sample
Ravi  Mumbai
Tina  Pune
Raj  Kolhapur
Madhuri  Sangli
```

5. Add new employee with employee id E5, name Ajit, department MECH, address Satara and contact 8897135133 using Java code created in Q.3.

```
// Step 4: Execute query
        ResultSet rs;
           rs = stmt.executeQuery("INSERT INTO teacher values('E5', 'Ajit', 'MECH', 'Satara',
'8897135133')");
        rs = stmt.executeQuery("SELECT * FROM teacher");
        while (rs.next()) {
           System.out.println(
              rs.getString(1) + "  " +
              rs.getString(2) + "  " +
              rs.getString(3) + "  " +
              rs.getString(4) + "  " +
              rs.getString(5)
           );
        }
```

```
D:\Anushka>javac anushka_sample.java

D:\Anushka>java anushka_sample
E5  Ajit  MECH  Satara  8897135133
E1  Ravi  CSE  Mumbai  9456723450
E2  Tina  AIML  Pune  8736492301
E3  Raj  CSE  Kolhapur  7829034658
E4  Madhuri  Civil  Sangli  9959310830
```

6. Modify address of Madhuri to Mumbai using Java code created in Q.3.

```
// Step 4: Execute query
        ResultSet rs;
           rs = stmt.executeQuery("UPDATE teacher SET address = 'Mumbai' WHERE name = 'Madhuri'");
        rs = stmt.executeQuery("SELECT * FROM teacher where name = 'Madhuri'");
        while (rs.next()) {
           System.out.println(
              rs.getString(1) + "  " +
              rs.getString(2) + "  " +
              rs.getString(3) + "  " +
              rs.getString(4) + "  " +
              rs.getString(5)
           );
        }
```

```
D:\Anushka>javac anushka_sample.java

D:\Anushka>java anushka_sample
E4  Madhuri  Civil  Mumbai  9959310830
```

7. Delete employees staying in Mumbai using Java code created in Q.3.

```
// Step 4: Execute query
        ResultSet rs;
           rs = stmt.executeQuery("DELETE FROM teacher WHERE address = 'Mumbai' ");
        rs = stmt.executeQuery("SELECT * FROM teacher");
        while (rs.next()) {
           System.out.println(
              rs.getString(1) + "  " +
              rs.getString(2) + "  " +
              rs.getString(3) + "  " +
              rs.getString(4) + "  " +
              rs.getString(5)
           );
        }
```