JDBC Assignment - CRUD Operations on Employees

Employee.java

```
import java.sql.*;

public class Employee {

    Connection con;
    PreparedStatement ps;
    Statement st;
    ResultSet res;

    Employee() {
        con = null;
    }

    public Connection getConnection() {
        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            con = DriverManager.getConnection(
                    "jdbc:mysql://localhost:3306/training", "root", "redhat");
        } catch (Exception e) {
            System.out.println(e);
        }
        return con;
    }

    // Insert Employee
    public void insertEmployee(String name, String city, String contact) {
        System.out.println("**************** Insert new Employee *****************");
        try {
            con = getConnection();
            String query = "INSERT INTO user(name, city, contact) VALUES(?, ?, ?)";
            ps = con.prepareStatement(query);
            ps.setString(1, name);
            ps.setString(2, city);
            ps.setString(3, contact);

            int rows = ps.executeUpdate();
            if (rows > 0) {
                System.out.println("Employee added successfully!");
            }
            ps.close();
            con.close();
        } catch (Exception e) {
            System.out.println(e);
        }
    }

    // Display Employees
    public void getEmployee() {
        System.out.println("**************** Display Employees *****************");
        try {
            con = getConnection();
            st = con.createStatement();
            res = st.executeQuery("SELECT * FROM user");

            System.out.println("Id\t Name\t City\t Contact");
            System.out.println("-----------------------------------");

            while (res.next()) {
                System.out.print(res.getInt("id") + "\t");
                System.out.print(res.getString("name") + "\t");
                System.out.print(res.getString("city") + "\t");
                System.out.println(res.getString("contact"));
            }
            System.out.println("-----------------------------------");

            res.close();
            con.close();
        } catch (Exception e) {
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            System.out.println(e);
        }
    }

    // Update Employee
    public void updateEmployee(int id, String city) {
        System.out.println("**************** Update Employee *****************");
        try {
            con = getConnection();
            String query = "UPDATE user SET city=? WHERE id=?";
            ps = con.prepareStatement(query);
            ps.setString(1, city);
            ps.setInt(2, id);

            int rows = ps.executeUpdate();
            if (rows > 0) {
                System.out.println("Employee updated successfully!");
            } else {
                System.out.println("No Employee found with given Id.");
            }
            ps.close();
            con.close();
        } catch (Exception e) {
            System.out.println(e);
        }
    }

    // Delete Employee
    public void deleteEmployee(int cid) {
        System.out.println("**************** Delete Employee *****************");
        try {
            con = getConnection();
            String query = "DELETE FROM user WHERE id=?";
            ps = con.prepareStatement(query);
            ps.setInt(1, cid);

            int rows = ps.executeUpdate();
            if (rows > 0) {
                System.out.println("Employee deleted successfully!");
            } else {
                System.out.println("No Employee found with given Id.");
            }
            ps.close();
            con.close();
        } catch (Exception e) {
            System.out.println(e);
        }
    }
}
```

TestEmployees.java

```
import java.util.Scanner;

public class TestEmployees {

    public static void main(String[] args) {
        Employee e = new Employee();
        String city;
        int cid;

        System.out.println("************** Global Tech Solutions **************");
        System.out.println("----------- Employee Management System ----------");
        while (true) {
            System.out.println("Press 1 for New Employee \t Press 2 to Display Employees");
            System.out.println("Press 3 for Update Employee \t Press 4 to Delete Employee");
            System.out.println("Press 5 for Exit");

            Scanner s = new Scanner(System.in);
            int option = s.nextInt();

            switch (option) {
                case 1:
                    System.out.println("Enter Employee Name, City & Contact no :");
                    String name = s.next();
                    city = s.next();
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                    String contactno = s.next();
                    e.insertEmployee(name, city, contactno);
                    break;
                case 2:
                    e.getEmployee();
                    break;
                case 3:
                    System.out.println("Enter Employee Id & City to be Updated:");
                    cid = s.nextInt();
                    city = s.next();
                    e.updateEmployee(cid, city);
                    break;
                case 4:
                    System.out.println("Enter Employee Id to be Deleted:");
                    cid = s.nextInt();
                    e.deleteEmployee(cid);
                    break;
                case 5:
                    System.out.println("Program Terminated");
                    System.exit(0);
                default:
                    System.out.println("Invalid Selection");
                    break;
            }
        }
    }
}
```