

NAME: Harsh Raj, **UID:** 22BCS11890, **GROUP/SECTION:** 619 - A

EXPERIMENT – 4 (Project Based Learning with Java)

CODE JAVA

package name;

import java.sql.*;

public class Mydb {

private static final String **URL** = "jdbc:mysql://localhost:3306/amitdb";

private static final String **USER** = "root";

private static final String **PASSWORD** = "hraj72888@G";

private Connection connection;

public Mydb() {

try {

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

 connection = DriverManager.getConnection(**URL**, **USER**, **PASSWORD**);

 System.out.println(" Database Connected Successfully!");

 } **catch** (ClassNotFoundException e) {

 System.err.println(" JDBC Driver not found! Add MySQL Connector JAR.");

 } **catch** (SQLException e) {

 System.err.println(" Connection failed! Check credentials. Error: " + e.getMessage());

 }

}

public void getAllEmployees() {

 String query = "SELECT * FROM employee";

try (Statement stmt = connection.createStatement();

 ResultSet rs = stmt.executeQuery(query)) {

 System.out.println("\n Employee List:");

while (rs.next()) {

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```
        System.out.println("ID: " + rs.getInt("id") +
            ", Name: " + rs.getString("name") +
            ", Salary: " + rs.getDouble("salary"));
    }
} catch (SQLException e) {
    System.err.println(" Error fetching employees: " + e.getMessage());
}
}
```



```
public void addEmployee(int id,String name, double salary) {
    String query = "INSERT INTO employee (id,name, salary) VALUES (?,?, ?)";
    try (PreparedStatement stmt = connection.prepareStatement(query)) {
        stmt.setInt(1, id);
        stmt.setString(2, name);
        stmt.setDouble(3, salary);
        stmt.executeUpdate();
        System.out.println(" Employee added successfully: " + name);
    } catch (SQLException e) {
        System.err.println(" Error adding employee: " + e.getMessage());
    }
}
```

```
public void removeDuplicateEmployees() {
    String query = "DELETE e1 FROM employee e1 " +
        "INNER JOIN employee e2 " +
        "ON e1.name = e2.name AND e1.salary = e2.salary " +
        "WHERE e1.id > e2.id";
    try (Statement stmt = connection.createStatement()) {
        int rowsDeleted = stmt.executeUpdate(query);
    }
}
```

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```
        System.out.println(" " + rowsDeleted + " duplicate records removed.");
    } catch (SQLException e) {
        System.err.println(" Error removing duplicates: " + e.getMessage());
    }
}
```

```
public void closeConnection() {
    if (connection != null) {
        try {
            connection.close();
            System.out.println(" Database Connection Closed.");
        } catch (SQLException e) {
            System.err.println(" Error closing connection: " + e.getMessage());
        }
    }
}
```

```
public static void main(String[] args) {
    Mydb db = new Mydb();

    db.addEmployee(107,"John1 Doe", 5000);
    db.addEmployee(108,"Krishna1", 6000);
    db.addEmployee(109,"Harsh1", 5500);
    db.addEmployee(110,"Sartha1k", 8000);
    db.addEmployee(160,"Aman1", 5200);
    db.addEmployee(140,"Krishna1", 6000);
}
```

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```
db.getAllEmployees();
```

```
db.removeDuplicateEmployees();
```

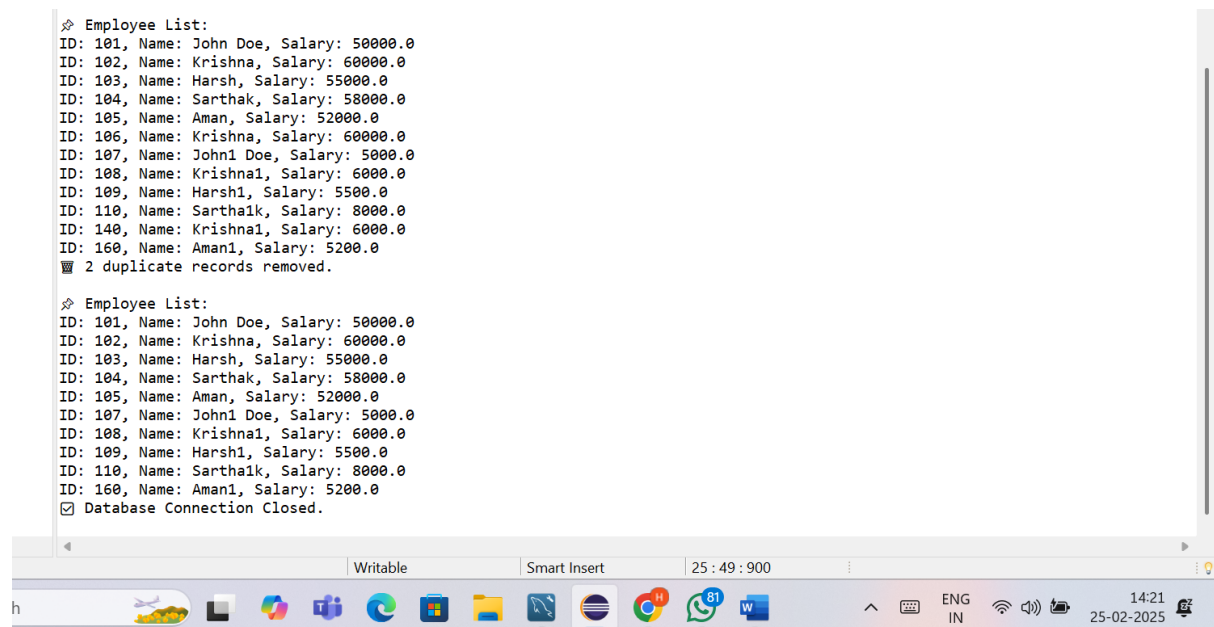
```
db.getAllEmployees();
```

```
db.closeConnection();
```

```
}  
}
```

OUTPUT

```
Employee List:  
ID: 101, Name: John Doe, Salary: 50000.0  
ID: 102, Name: Krishna, Salary: 60000.0  
ID: 103, Name: Harsh, Salary: 55000.0  
ID: 104, Name: Sarthak, Salary: 58000.0  
ID: 105, Name: Aman, Salary: 52000.0  
ID: 106, Name: Krishna, Salary: 60000.0  
ID: 107, Name: John1 Doe, Salary: 5000.0  
ID: 108, Name: Krishna1, Salary: 6000.0  
ID: 109, Name: Harsh1, Salary: 5500.0  
ID: 110, Name: Sarthak1, Salary: 8000.0  
ID: 140, Name: Krishna1, Salary: 6000.0  
ID: 160, Name: Aman1, Salary: 5200.0  
2 duplicate records removed.  
  
Employee List:  
ID: 101, Name: John Doe, Salary: 50000.0  
ID: 102, Name: Krishna, Salary: 60000.0  
ID: 103, Name: Harsh, Salary: 55000.0  
ID: 104, Name: Sarthak, Salary: 58000.0  
ID: 105, Name: Aman, Salary: 52000.0  
ID: 107, Name: John1 Doe, Salary: 5000.0  
ID: 108, Name: Krishna1, Salary: 6000.0  
ID: 109, Name: Harsh1, Salary: 5500.0  
ID: 110, Name: Sarthak1, Salary: 8000.0  
ID: 160, Name: Aman1, Salary: 5200.0  
Database Connection Closed.
```



DATABASE

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The screenshot displays the SQL Enterprise Manager interface. The left pane shows the 'SCHEMAS' tree with 'amitdb' expanded, containing 'employee' and 'employeeeb' tables. The central query editor shows the SQL statement: `SELECT * FROM amitdb.employee;`. The 'Result Grid' below the query shows the following data:

id	name	salary
106	Krishna	60000.00
107	John1 Doe	5000.00
108	Krishna1	6000.00
109	Harsh1	5500.00
110	Sartha1k	8000.00
140	Krishna1	6000.00
160	Aman1	5200.00

The bottom pane shows the 'Output' window with 'Action Output' selected, displaying a log of database actions:

#	Time	Action	Message	Duration / Fetch
11	09:43:59	CREATE TABLE employeeeb (id INT PRIMARY KEY auto_increment, name ...	0 row(s) affected	0.047 sec
12	09:59:19	select * from employeeeb LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
13	09:59:22	select * from employeeeb LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
14	09:59:36	SELECT * FROM amitdb.employeeeb LIMIT 0, 1000	0 row(s) returned	0.016 sec / 0.000 sec
15	10:03:10	SELECT * FROM amitdb.employeeeb LIMIT 0, 1000	0 row(s) returned	0.015 sec / 0.000 sec
16	10:03:13	SELECT * FROM amitdb.employee LIMIT 0, 1000	12 row(s) returned	0.015 sec / 0.000 sec