Start

```
Main Menu:
1. Print Data of a table:
2. Insert Data into a table:
3. Update budget data in department:
4. Delete a department:
5. Exit:
```

Print data

```
Main Menu:
1. Print Data of a table:
2. Insert Data into a table:
3. Update budget data in department:
4. Delete a department:
5. Exit:
1
Enter table name to print data:
department
Data of department TABLE
Biology  ,  Watson  ,  90000.00
Comp. Sci.  ,  Taylor  ,  100000.00
Elec. Eng.  ,  Taylor  ,  85000.00
Finance  ,  Painter  ,  120000.00
History  ,  Painter  ,  50000.00
Music  ,  Packard  ,  80000.00
Physics  ,  Watson  ,  70000.00
Main Menu:
1. Print Data of a table:
2. Insert Data into a table:
3. Update budget data in department:
4. Delete a department:
5. Exit:
```

Insert data

```
Main Menu:
1. Print Data of a table:
2. Insert Data into a table:
3. Update budget data in department:
4. Delete a department:
5. Exit:
2
Enter Table Name:
department
Column names of the table department are:
dept_name (Varchar), building (Varchar), budget (Decimal),
Enter Values (ex: 100, 'String', 10.20, 'Apple'):
'CSE','1st floor',2500
INSERT INTO department VALUES ('CSE','1st floor',2500)
Main Menu:
1. Print Data of a table:
2. Insert Data into a table:
3. Update budget data in department:
4. Delete a department:
5. Exit:
```

Update budget

```
Main Menu:
1. Print Data of a table:
2. Insert Data into a table:
3. Update budget data in department:
4. Delete a department:
5. Exit:
3
Enter dept_name to change budget
CSE
Enter new budget
3400
UPDATE department SET budget = 3400 where dept_name= 'CSE'
Main Menu:
1. Print Data of a table:
2. Insert Data into a table:
3. Update budget data in department:
4. Delete a department:
5. Exit:
```

Delete

```
Successfully connected to MySQL database.
Main Menu:
1. Print Data of a table:
2. Insert Data into a table:
3. Update budget data in department:
4. Delete a department:
5. Exit:
4
Enter dept_name to delete:
ch
Are you sure you want to delete row with dept_name='ch':(ex: y or n)
y
Deleted
Main Menu:
1. Print Data of a table:
2. Insert Data into a table:
3. Update budget data in department:
4. Delete a department:
5. Exit:
```

CODE

```
1.  package ddl;
2.
3.  import java.sql.Connection;
4.  import java.sql.DriverManager;
5.  import java.sql.ResultSet;
6.  import java.sql.ResultSetMetaData;
7.  import java.sql.Statement;
8.  import java.util.HashMap;
9.  import java.util.Properties;
10. import java.util.Scanner;
11.
12. public class db {
13.   public static void main(String arg[]) {
14.             Connection con = null;
15.
16.             HashMap<Integer, String> map = new HashMap<>();
17.             map.put(3, "Decimal");
18.             map.put(12, "Varchar");
19.             try {
20.                       Class.forName("com.mysql.jdbc.Driver");
21.                       String url = "jdbc:mysql://localhost:3306/ddl";
22.                       Properties info = new Properties();
23.                       info.put("user", "root");
24.                       info.put("password", "");
25.
26.                       con = DriverManager.getConnection(url, info);
27.
28.                       if (con != null) {
29.                                 System.out.println("Successfully connected to MySQL
    database.");
```

```
30.                     }
31.                     Scanner input = new Scanner(System.in);
32.                     boolean mainLoop = true;
33.                     int choice;
34.                     Statement stmt = con.createStatement();
35.
36.                     while (mainLoop) {
37.                             System.out.println("Main Menu: ");
38.                             System.out.println("1. Print Data of a table: ");
39.                             System.out.println("2. Insert Data into a table: ");
40.                             System.out.println("3. Update budget data in department: ");
41.                             System.out.println("4. Delete a department: ");
42.                             System.out.println("5. Exit: ");
43.                             choice = input.nextInt();
44.
45.                             switch (choice) {
46.                             case 1:
47.                                     StringBuilder query = new StringBuilder();
48.                                     query.append("select * from ");
49.                                     System.out.println("Enter table name to print data:
    ");
50.                                     Scanner sc = new Scanner(System.in);
51.                                     String str = sc.nextLine();
52.                                     query.append(str);
53.
54.                                     try (ResultSet rs =
    stmt.executeQuery(query.toString())) {
55.                                             ResultSetMetaData rsmd =
    rs.getMetaData();
56.                                             int columnCount = rsmd.getColumnCount();
57.                                             System.out.println("Data of " + str + "
    TABLE");
58.                                             while (rs.next()) {
59.                                                     StringBuilder tableData = new
    StringBuilder();
60.                                                     for (int colIdx = 1; colIdx <=
    columnCount; colIdx++) {
61.
      tableData.append(rs.getObject(colIdx));
62.                                                             if (colIdx !=
    columnCount) {
63.
      tableData.append("  ,  ");
64.                                                             }
65.                                                     }
66.                                                     System.out.println(tableData);
67.                                             }
68.                                     } catch (Exception e) {
69.                                             e.printStackTrace();
70.                                     }
71.                                     break;
72.                             case 2:
73.                                     Scanner s1 = new Scanner(System.in);
74.                                     System.out.println("Enter Table Name:");
75.                                     String q1 = s1.nextLine();
76.                                     ResultSet rs = stmt.executeQuery("select * from " +
    q1);
77.                                     ResultSetMetaData rsMetaData = rs.getMetaData();
78.                                     int count = rsMetaData.getColumnCount();
79.                                     System.out.println("Column names of the table " +
    q1 + " are:");
80.                                     for (int i = 1; i <= count; i++) {
81.                                             System.out.print(
82.
      rsMetaData.getColumnName(i) + " (" + map.get(rsMetaData.getColumnType(i)) + "), ");
```

```
83.                                         }
84.                                         System.out.println("\nEnter Values (ex: 100,
    'String', 10.20, 'Apple'):");
85.                                         String q2 = s1.nextLine();
86.                                         String sql = "INSERT INTO " + q1 + " VALUES (" + q2
    + ")";
87.                                         System.out.println(sql);
88.                                         stmt.executeUpdate(sql);
89.
90.                                         break;
91.                                 case 3:
92.                                         System.out.println("Enter dept_name to change
    budget");
93.                                         Scanner sc1 = new Scanner(System.in);
94.                                         String str1 = sc1.nextLine();
95.
96.                                         System.out.println("Enter new budget");
97.                                         Scanner sc2 = new Scanner(System.in);
98.                                         String str2 = sc2.nextLine();
99.
100.                                                String sql1 = "UPDATE department SET
    budget = " + str2 + " where dept_name= '" + str1 + "'";
101.
102.                                                System.out.println(sql1);
103.                                                stmt.executeUpdate(sql1);
104.                                                break;
105.                                        case 4:
106.                                                System.out.println("Enter dept_name to
    delete:");
107.                                                Scanner sc3 = new Scanner(System.in);
108.                                                String str3 = sc3.nextLine();
109.
110.                                                System.out
111.                                                                .println("Are you
    sure you want to delete row with dept_name='" + str3 + "':(ex: y or n)");
112.                                                Scanner sc4 = new Scanner(System.in);
113.                                                String str4 = sc4.nextLine();
114.
115.                                                if (str4.toLowerCase().equals("yes") ||
    str4.toLowerCase().equals("y")) {
116.                                                        System.out.println("Deleted");
117.                                                        String sql2 = "DELETE FROM
    department WHERE dept_name='" + str3 + "'";
118.                                                        stmt.executeUpdate(sql2);
119.                                                } else {
120.
      System.out.println("Cancelled");
121.                                                }
122.                                                break;
123.                                        case 5:
124.                                                con.close();
125.                                                mainLoop = false;
126.                                                System.exit(0);
127.                                                break;
128.                                        default:
129.                                                con.close();
130.                                                mainLoop = false;
131.                                                System.exit(0);
132.                                        }
133.                                }
134.
135.                        } catch (Exception e) {
136.                                e.printStackTrace();
137.                        }
138.            }
```

```
139.  }
140.
```