**Lab Sheet 3**

[1] WAP in java to insert, select, modify and delete data of a database.

**Source code:**

**package** Lab3;

**import** java.sql.\*;

**public** **class** Question1 {

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

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

**private** **static** **final** String ***PASSWORD*** = "rootpassword";

**public** **static** **void** main(String[] args) {

**try** {

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

*insertData*();

*readData*();

*modifyData*();

*deleteData*();

} **catch** (Exception e) {

System.***out***.println(e.getMessage());

}

}

**private** **static** **void** deleteData() {

**try** (Connection con = DriverManager.*getConnection*(***URL***, ***USER***, ***PASSWORD***)) {

String sql = "DELETE FROM studenttable WHERE roll = ?";

**try** (PreparedStatement statement = con.prepareStatement(sql)) {

statement.setInt(1, 2); // Specify the roll value to delete

**int** rowsAffected = statement.executeUpdate();

System.***out***.println(rowsAffected + " record(s) deleted.");

}

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}

}

**private** **static** **void** modifyData() {

**try** (Connection con = DriverManager.*getConnection*(***URL***, ***USER***, ***PASSWORD***)) {

String sql = "UPDATE studenttable SET name = ?, roll = ?, height = ? WHERE roll = ?";

**try** (PreparedStatement statement = con.prepareStatement(sql)) {

statement.setString(1, "Karan");

statement.setInt(2, 5);

statement.setFloat(3, (**float**) 1.5);

statement.setInt(4, 1); // Specify the roll value to update

**int** rowsAffected = statement.executeUpdate();

System.***out***.println(rowsAffected + " record(s) updated.");

}

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}

}

**private** **static** **void** readData() {

**try** (Connection con = DriverManager.*getConnection*(***URL***, ***USER***, ***PASSWORD***);

Statement stmt = con.createStatement();

ResultSet rs = stmt.executeQuery("SELECT \* FROM studenttable")) {

**while** (rs.next()) {

System.***out***.println("Name: " + rs.getString("name")

+ ", Roll: " + rs.getInt("roll")

+ ", Height: " + rs.getFloat("height"));

}

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}

}

**private** **static** **void** insertData() {

String insertQuery = "INSERT INTO studenttable (name, roll, height) VALUES (?, ?, ?)";

**try** (Connection con = DriverManager.*getConnection*(***URL***, ***USER***, ***PASSWORD***)) {

// Inserting the first record

**try** (PreparedStatement preparedStatement1 = con.prepareStatement(insertQuery)) {

preparedStatement1.setString(1, "Nawaras");

preparedStatement1.setInt(2, 1);

preparedStatement1.setFloat(3, (**float**) 1.6);

**int** rowsAffected1 = preparedStatement1.executeUpdate();

System.***out***.println(rowsAffected1 + " record(s) inserted");

}

// Inserting the second record

**try** (PreparedStatement preparedStatement2 = con.prepareStatement(insertQuery)) {

preparedStatement2.setString(1, "Nisum");

preparedStatement2.setInt(2, 2);

preparedStatement2.setFloat(3, (**float**) 2.7);

**int** rowsAffected2 = preparedStatement2.executeUpdate();

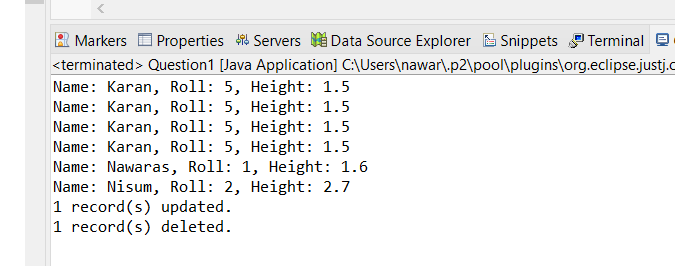
System.***out***.println(rowsAffected2 + " record(s) inserted");

}

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

} }}

**Output:** 

1. WAP in java to insert two numbers from UI and then find the sum of these numbers and display the sum. [Hint: Use GUI controls and database connectivity)

**Source code:**

**package** Lab3;

**import** java.awt.\*;

**import** java.awt.event.ActionEvent;

**import** java.awt.event.ActionListener;

**import** java.sql.\*;

**import** javax.swing.\*;

**public** **class** Question2 {

JFrame frame;

JTextField textField;

JTextField textField\_1;

JButton btn1;

JLabel lblNewLabel\_2 ;

**public** Question2(){

frame = **new** JFrame();

frame.setBounds(100, 100,500, 500);

frame.setDefaultCloseOperation(JFrame.***EXIT\_ON\_CLOSE***);

frame.getContentPane().setLayout(**null**);

JLabel lblNewLabel = **new** JLabel("Enter number:");

lblNewLabel.setBounds(36, 98, 110, 20);

frame.getContentPane().add(lblNewLabel);

JLabel lblNewLabel\_1 = **new** JLabel("Enter number:");

lblNewLabel\_1.setBounds(36, 146, 110, 20);

frame.getContentPane().add(lblNewLabel\_1);

textField = **new** JTextField();

textField.setBounds(167, 99, 207, 19);

frame.getContentPane().add(textField); textField.setColumns(10);

textField\_1 = **new** JTextField();

textField\_1.setBounds(167, 147, 207, 19);

frame.getContentPane().add(textField\_1);

textField\_1.setColumns(10);

btn1 = **new** JButton("Add");

btn1.setBounds(152, 210, 115, 21);

frame.getContentPane().add(btn1);

btn1.addActionListener(**new** ActionListener() {

@Override

**public** **void** actionPerformed(ActionEvent e) {

**int** a = Integer.*parseInt*(textField.getText());

**int** b = Integer.*parseInt*(textField\_1.getText());

**int** c= a+b;

System.***out***.println(c);

lblNewLabel\_2.setText("Result: "+c+" And Added to DB");

String URL = "jdbc:mysql://localhost:3306/Adddb";

String USER = "root";

String PASSWORD = "rootpassword";

**try** {

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

String insertQuery = "INSERT INTO Addtable (sum) VALUES (?)";

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

PreparedStatement preparedStatement= con.prepareStatement(insertQuery);

preparedStatement.setInt(1, c);//

**int** rowsAffected1 = preparedStatement.executeUpdate();

System.***out***.println(rowsAffected1 + " record(s) inserted");

}**catch**(Exception e1) {

System.***out***.println(e1.getMessage());

} }

});

lblNewLabel\_2= **new** JLabel("Result:");

lblNewLabel\_2.setBounds(36, 176, 200, 20);

frame.getContentPane().add(lblNewLabel\_2);

frame.setVisible(**true**);

}

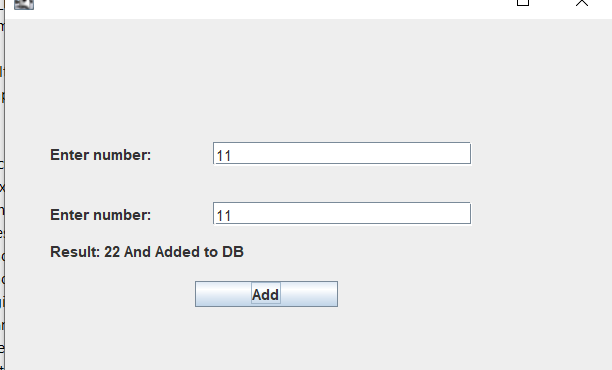
**public** **static** **void** main(String[] args) {

**new** Question2();

}

}

**Output:**



1. WAP in java to implement DDL statement.

**Source code:**

**package** Lab3;

**import** java.sql.\*;

**public** **class** Question3 {

**private** **static** **final** String ***URL*** = "jdbc:mysql://localhost:3306/Question3";

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

**private** **static** **final** String ***PASSWORD*** = "rootpassword";

**public** **static** **void** main(String[] args) {

**try** {

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

*createTable*();

} **catch** (ClassNotFoundException | SQLException e) {

e.printStackTrace();

}

}

**private** **static** **void** createTable() **throws** SQLException {

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

Statement statement = connection.createStatement()) {

String createTableSQL = "CREATE TABLE hamroStudent (" +

"id INT PRIMARY KEY," +

"name VARCHAR(255)," +

"position VARCHAR(255)," +

"salary DOUBLE)";

statement.execute(createTableSQL);

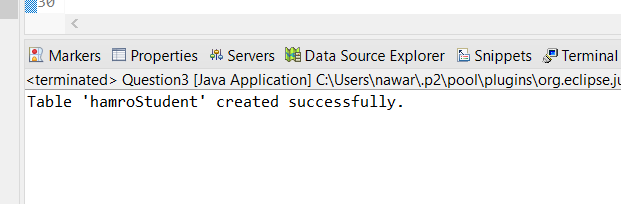
System.***out***.println("Table 'hamroStudent' created successfully.");

}

}

}

**Output:**

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1. WAP in java to implement DML statements.

**Source code:**

**package** Lab3;

**import** java.sql.\*;

**public** **class** Question4 {

**private** **static** **final** String ***URL*** = "jdbc:mysql://localhost:3306/Question4";

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

**private** **static** **final** String ***PASSWORD*** = "rootpassword";

**public** **static** **void** main(String[] args) {

**try** {

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

*insertData*();

*updateData*();

*deleteData*();

} **catch** (ClassNotFoundException | SQLException e) {

e.printStackTrace();

}

}

**private** **static** **void** insertData() **throws** SQLException {

**try** (Connection connection = DriverManager.*getConnection*(***URL***, ***USER***, ***PASSWORD***)) {

Statement statement = connection.createStatement();

String createTableSQL = "CREATE TABLE employees (" +

"id INT PRIMARY KEY," +

"name VARCHAR(255)," +

"position VARCHAR(255)," +

"salary DOUBLE)";

statement.execute(createTableSQL);

String insertSQL = "INSERT INTO employees (id, name, position, salary) VALUES (?, ?, ?, ?)";

**try** (PreparedStatement preparedStatement = connection.prepareStatement(insertSQL)) {

preparedStatement.setInt(1, 1);

preparedStatement.setString(2, "Nawaras");

preparedStatement.setString(3, "Software Engineer");

preparedStatement.setDouble(4, 75000.0);

**int** rowsInserted = preparedStatement.executeUpdate();

System.***out***.println(rowsInserted + " row(s) inserted.");

}

}

}

**private** **static** **void** updateData() **throws** SQLException {

**try** (Connection connection = DriverManager.*getConnection*(***URL***, ***USER***, ***PASSWORD***)) {

String updateSQL = "UPDATE employees SET salary = ? WHERE name = ?";

**try** (PreparedStatement preparedStatement = connection.prepareStatement(updateSQL)) {

preparedStatement.setDouble(1, 80000.0);

preparedStatement.setString(2, "John Doe");

**int** rowsUpdated = preparedStatement.executeUpdate();

System.***out***.println(rowsUpdated + " row(s) updated.");

}

}

}

**private** **static** **void** deleteData() **throws** SQLException {

**try** (Connection connection = DriverManager.*getConnection*(***URL***, ***USER***, ***PASSWORD***)) {

String deleteSQL = "DELETE FROM employees WHERE name = ?";

**try** (PreparedStatement preparedStatement = connection.prepareStatement(deleteSQL)) {

preparedStatement.setString(1, "John Doe");

**int** rowsDeleted = preparedStatement.executeUpdate();

System.***out***.println(rowsDeleted + " row(s) deleted.");

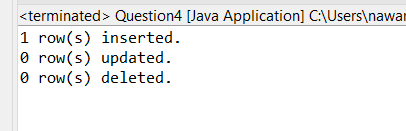
}

}

}

}

**Output:**

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