

Practical No. 5

Aim: a. Write a JDBC program that displays the data of a given table in a GUI Table.

Code:

```
import java.sql.*;
import javax.swing.JFrame;
import javax.swing.JScrollPane;
import javax.swing.JTable;
import javax.swing.table.DefaultTableModel;

public class JDBCGUIExample {
    public static void main(String[] args) {
        JFrame frame = new JFrame("Database Table Display");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        String url = "jdbc:mysql://localhost:3306/syit";
        String username = "root";
        String password = "root";
        String tableName = "students";
        DefaultTableModel tableModel = new DefaultTableModel();
        tableModel.addColumn("ID");
        tableModel.addColumn("Name");
        tableModel.addColumn("Age");
        JTable jTable = new JTable(tableModel);
        JScrollPane jScrollPane = new JScrollPane(jTable);
        frame.getContentPane().add(jScrollPane);
        try {
            Connection connection = DriverManager.getConnection(url,
                username, password);
            Statement statement = connection.createStatement();
            String query = "SELECT * FROM " + tableName;
            ResultSet resultSet = statement.executeQuery(query);
            while (resultSet.next()) {
                Object[] row = new Object[3];
                row[0] = resultSet.getObject(1);
                row[1] = resultSet.getObject(2);
                row[2] = resultSet.getObject(3);
                tableModel.addRow(row);
            }
            resultSet.close();
            statement.close();
            connection.close();
        } catch (Exception e) {
            e.printStackTrace();
        }
        frame.setSize(400, 300);
        frame.setLocationRelativeTo(null);
        frame.setVisible(true);
    }
}
```

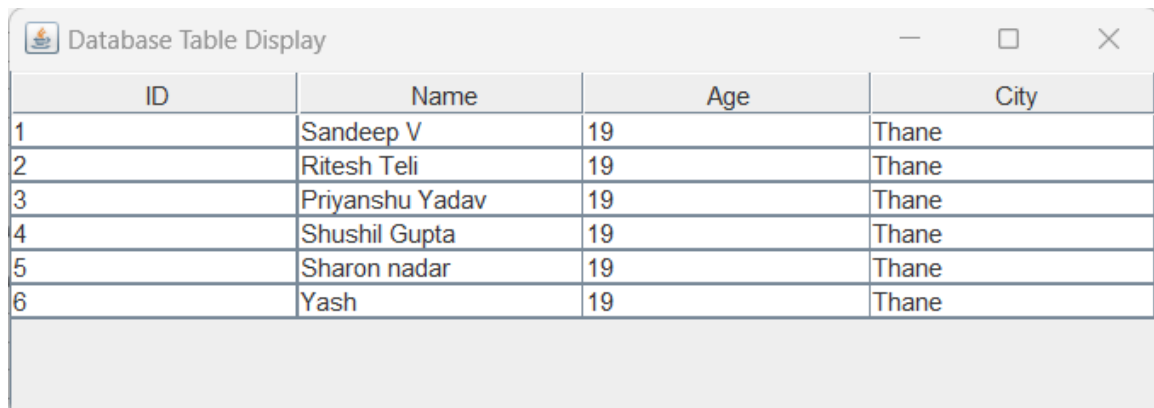
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```
}  
}
```

Output:

```
C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>javac JDBCGUIExample.java
```

```
C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>java -cp mysql-connector-j-8.1.0.jar;. JDBCGUIExample
```



ID	Name	Age	City
1	Sandeep V	19	Thane
2	Ritesh Teli	19	Thane
3	Priyanshu Yadav	19	Thane
4	Shushil Gupta	19	Thane
5	Sharon nadar	19	Thane
6	Yash	19	Thane

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Aim: b. Write a JDBC program to Show the details of a specified product from a given table selected using Combobox.

Code:

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.*;

public class UserDetails extends JFrame{
    private JComboBox<String> userComboBox;
    private JTextField idTextField;
    private JTextField nameTextField;
    public UserDetails(){
        setTitle("Students");
        setSize(400,150);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLayout(new FlowLayout());
        userComboBox= new JComboBox<>();
        idTextField = new JTextField(20);
        nameTextField= new JTextField(10);
        add(new JLabel("Select ID"));
        add(userComboBox);
        add(new JLabel("Id:"));
        add(idTextField);
        add(new JLabel("Name"));
        add(nameTextField);
        try{
            Connection connection =
DriverManager.getConnection("jdbc:mysql://localhost:3306/syt","root","root");
            String query ="SELECT id FROM students";
            PreparedStatement preparedStatement= connection.prepareStatement(query);
            ResultSet resultSet=preparedStatement.executeQuery();
            while (resultSet.next())
            {
                int id=resultSet.getInt("id");
                userComboBox.addItem(Integer.toString(id));
            }
            resultSet.close();
            preparedStatement.close();
            connection.close();
        }
        catch (SQLException e){
            e.printStackTrace();
        }
    }
}
```

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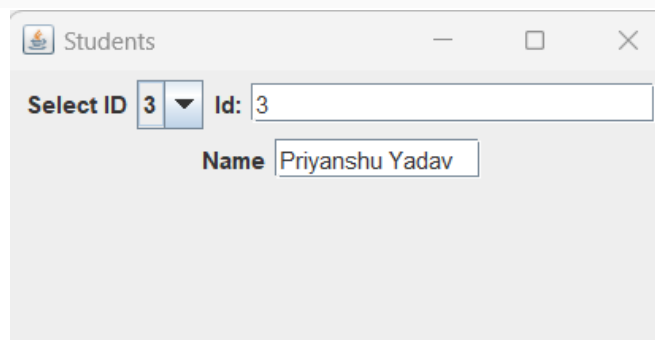
```
userComboBox.addActionListener(new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
        String selectedId = (String) userComboBox.getSelectedItem();
        if(selectedId!=null)
        {
            try{
                Connection
connection=DriverManager.getConnection("jdbc:mysql://localhost:3306/syit","root","root");
                String query ="SELECT id,name FROM students WHERE id=?";
                PreparedStatement preparedStatement=connection.prepareStatement(query);
                preparedStatement.setString(1,selectedId);
                ResultSet resultSet=preparedStatement.executeQuery();
                if (resultSet.next()){
                    int id = resultSet.getInt("id");
                    String name = resultSet.getString("name");
                    idTextField.setText(Integer.toString(id));
                    nameTextField.setText(name);
                }
                resultSet.close();
                preparedStatement.close();
                connection.close();
            }catch (SQLException ex){
                ex.printStackTrace();
            }
        }
    }
}); }

public static void main(String[] args){
    SwingUtilities.invokeLater()->{
        UserDetails user = new UserDetails();
        user.setVisible(true);
    }
}
```

Output:

```
C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>javac UserDetails.java
```

```
C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>java -cp mysql-connector-j-8.1.0.jar;. UserDetails
```



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Aim: c. Write a GUI application to Navigate forward and reverse result set data.

Code:

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.*;

public class ForwardBackward extends JFrame{
    private JButton previousButton;
    private JButton nextButton;
    private JTextField dataField;
    private ResultSet resultSet;
    public ForwardBackward() {
        setTitle("Students");
        setSize(400, 100);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLayout(new FlowLayout());
        previousButton = new JButton("Previous");
        nextButton = new JButton("next");
        dataField = new JTextField(20);
        add(previousButton);
        add(dataField);
        add(nextButton);
        try {
            Connection connection =
DriverManager.getConnection("jdbc:mysql://localhost:3306/syit", "root", "root");
            Statement statement =
connection.createStatement(ResultSet.TYPE_SCROLL_INSENSITIVE,
ResultSet.CONCUR_READ_ONLY);
            String query = "SELECT * FROM students";
            resultSet = statement.executeQuery(query);
            displayData();
        } catch (SQLException e) {
            e.printStackTrace();
        }
        previousButton.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                try {
                    if (resultSet.previous()){
                        displayData();
                    }
                }
            }
        })
    }
}
```

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```
        catch (SQLException ex){
            ex.printStackTrace();
        }
    }
});
nextButton.addActionListener(new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
        try {
            if (resultSet.next()){
                displayData();
            }
        }
        catch (SQLException ex){
            ex.printStackTrace();
        }
    }
});
}
private void displayData(){
    try {
        dataField.setText(resultSet.getString("name"));
    }
    catch (SQLException e){
        e.printStackTrace();
    }
}
public static void main(String[] args){
    SwingUtilities.invokeLater()->{
        ForwardBackward app = new ForwardBackward();
        app.setVisible(true);
    };
}
```

Output:

C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>javac ForwardBackward.java

C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>java -cp mysql-connector-j-8.1.0.jar;. ForwardBackward

