

# Artificial Intelligence and Data Science Department.

OOPM / Odd Sem 2021-22 / Experiment 15.

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47 / D6AD.

EXPERIMENT - 15.

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**Aim:** To create some applications using Java AWT.

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**Theory:** Java AWT (Abstract Window Toolkit) is an API to develop Graphical User Interface (GUI) or windows-based applications in Java.

Java AWT components are platform-dependent  
i.e. components are displayed according to the view of the operating system.

AWT is heavyweight  
i.e. its components are using the resources of the underlying operating system (OS).

The java.awt package provides classes for AWT API such as TextField, Label, TextArea, RadioButton, CheckBox, Choice, List etc.

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**Program:** For Currency Converter

```
import java.util.*;  
import java.lang.*;  
import java.awt.*;  
import java.awt.event.ActionListener;  
import java.awt.event.ActionEvent;  
import java.applet.*;
```

```

public class INRToUSD extends Applet implements ActionListener {
    TextField tf1, tf3;
    Button convert;
    double result = 0;
    String resultMsg = "";
    public void init() {
        setLayout(null);
        tf1 = new TextField();
        tf1.setBounds(500, 500, 50, 20);
        tf3 = new TextField();
        tf3.setEditable(false);
        tf3.setBounds(500, 535, 50, 20);
        convert = new Button("Convert");
        convert.setBounds(495, 570, 60, 20);
        convert.addActionListener(this);
        add(tf1);
        add(tf3);
        add(convert);
    }
    public void actionPerformed(ActionEvent e) {
        result = (Double.parseDouble(tf1.getText())) / 74.32;
        tf3.setText(String.valueOf(result));
        if (e.getSource() == convert) resultMsg = "Rs." + tf1.getText() + " = $" + tf3.getText();
        repaint();
    }
    public void paint(Graphics g) {
        g.drawString(resultMsg, 470, 610);
    }
} /* */

```

*For Login Screen*

```

import java.util.*;
import java.lang.*;
import java.awt.*;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import java.applet.*;
public class LoginDisplay extends Applet implements ActionListener {
    TextField username, password;
    TextArea displayInfo;
    Button ok, reset;
    String displayText = "";
    public void init() {
        setLayout(null);
        username = new TextField("Username");
        password = new TextField("Password");
    }
}

```

```

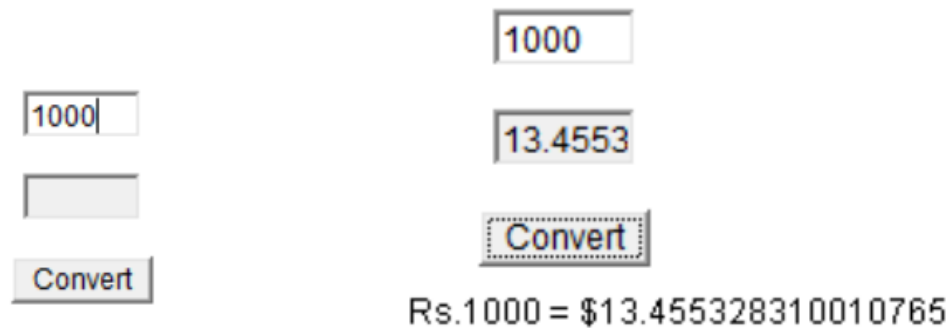
displayInfo = new TextArea();
username.setBounds(870, 500, 120, 30);
password.setBounds(870, 540, 120, 30);
displayInfo.setBounds(730, 580, 400, 60);
displayInfo.setEditable(false);
ok = new Button("OK");
reset = new Button("Reset");
ok.setBounds(880, 650, 30, 20);
reset.setBounds(920, 650, 60, 20);
add(username);
add(password);
add(displayInfo);
add(ok);
add(reset);
ok.addActionListener(this);
reset.addActionListener(this);
}
public void actionPerformed(ActionEvent e) {
    if (e.getSource() == ok) {
        displayText = (username.getText().isEmpty() || password.getText().isEmpty()) ? "" : "Entered
UserName: " + username.getText() + "\nEntered password: " + password.getText();
    } else if (e.getSource() == reset) {
        displayText = "";
        username.setText("");
        password.setText("");
    }
    displayInfo.setText(displayText);
    repaint();
}
public void paint(Graphics g) {}
}

```

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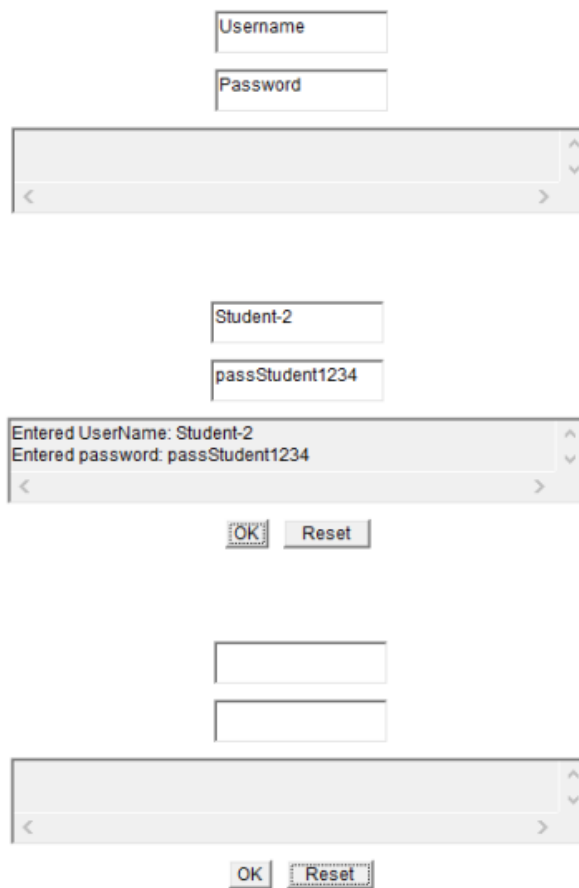
# OUTPUT:

Output: For Currency Converter



A screenshot of a currency converter application. It features two input fields, each containing the value '1000'. Below the first input field is a 'Convert' button. To the right of these inputs, the converted value '13.4553' is displayed. Below this value is another 'Convert' button. At the bottom, the result is shown as 'Rs.1000 = \$13.455328310010765'.

For Login Screen



A screenshot of a login screen application. It contains two input fields labeled 'Username' and 'Password'. Below them is a large text area displaying the entered credentials: 'Entered UserName: Student-2' and 'Entered password: passStudent1234'. At the bottom of the text area are 'OK' and 'Reset' buttons. Below this section, there are two more empty input fields and another large text area with 'OK' and 'Reset' buttons at the bottom.