



JAVA IOT DEVELOPER LAB

LAB -3

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Questions :-

1. Write a program that creates a Graphical user interface using JAVA AWT to input the choices of a user. Create a text box where the user can enter his name. Then Create a Checkbox group with three fruits and a dropdown list with three vegetables. Finally display the section by the user. For example: User1 has selected grapes and tomatoes.

Syntax.

```
package Asssignment_3;
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class First {
    First(){
        JFrame f=new JFrame("Question no. 1");
        String result ;
        JButton b=new JButton("Submit ");
        b.setBounds(400,400,80,30);// setting button position

        TextField textField = new TextField("Enter your name here");
        textField.setBounds(100,50,250,20);

        CheckboxGroup obj = new CheckboxGroup();
        Checkbox ckbox1 = new Checkbox("Apple",obj, true);
        ckbox1.setBounds(100,100, 60,60);
        Checkbox ckbox2 = new Checkbox("Banana",obj,false);
        ckbox2.setBounds(100,150, 60,60);
        Checkbox ckbox3 = new Checkbox("Orange ",obj,false);
        ckbox3.setBounds(100,200, 60,60);

        List list=new List(3,false);
        list.setBounds(300,250, 100,50);
        list.add("broccoli");
        list.add("Potatoes");
        list.add("Tomatoes");

        f.setDefaultCloseOperation(f.EXIT_ON_CLOSE);
        f.add(textField);
        f.add(ckbox1);
        f.add(ckbox2);
        f.add(ckbox3);
        f.add(list);
        f.add(b);//adding button into frame

        f.setSize(500,500);
        // f.setLayout(new FlowLayout());
```

```

        f.setVisible(true);

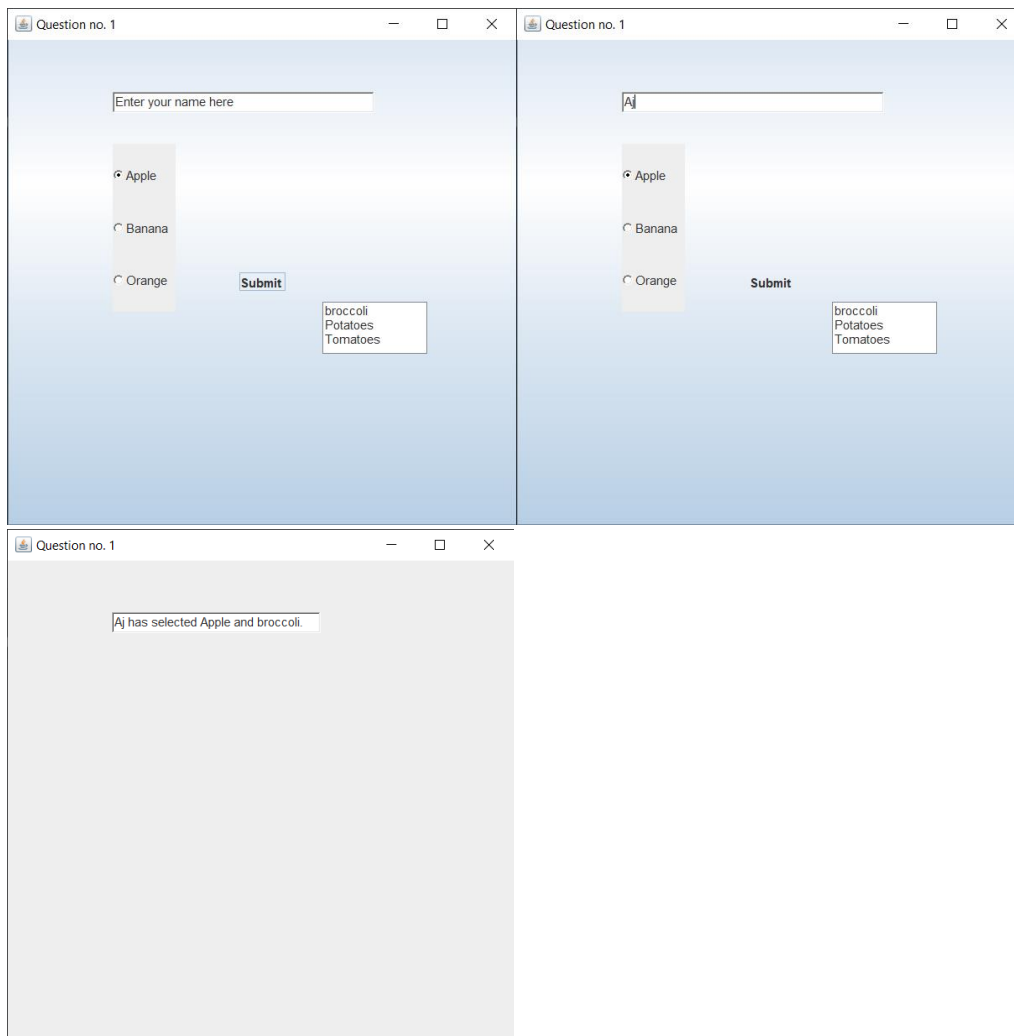
//        .addListener(this);
        b.addActionListener(new ActionListener(){
            public void actionPerformed(ActionEvent e){
                textField.setBounds(100,50,200,20);
                String name = textField.getText();
                if(checkbox1.getState()){
                    if (list.isIndexSelected(0)){
                        textField.setText(name+" has selected Apple and broccoli.");
                    }else if (list.isIndexSelected(1)){
                        textField.setText(name+" has selected Apple and Potatoes.");
                    }else if (list.isIndexSelected(2)){
                        textField.setText(name+" has selected Apple and Tomatoes.");
                    }
                }
                else if (checkbox2.getState()){
                    if (list.isIndexSelected(0)){
                        textField.setText(name+" has selected Banana and broccoli.");
                    }else if (list.isIndexSelected(1)){
                        textField.setText(name+" has selected Banana and Potatoes.");
                    }else if (list.isIndexSelected(2)){
                        textField.setText(name+" has selected Banana and Tomatoes.");
                    }
                }
                else if (checkbox3.getState()){
                    if (list.isIndexSelected(0)){
                        textField.setText(name+" has selected Orange and broccoli.");
                    }else if (list.isIndexSelected(1)){
                        textField.setText(name+" has selected Orange and Potatoes.");
                    }else if (list.isIndexSelected(2)){
                        textField.setText(name+" has selected Orange and Tomatoes.");
                    }
                }
                list.setVisible(false);
                checkbox1.setVisible(false);
                checkbox2.setVisible(false);
                checkbox3.setVisible(false);
                b.setVisible(false);

            }
        });

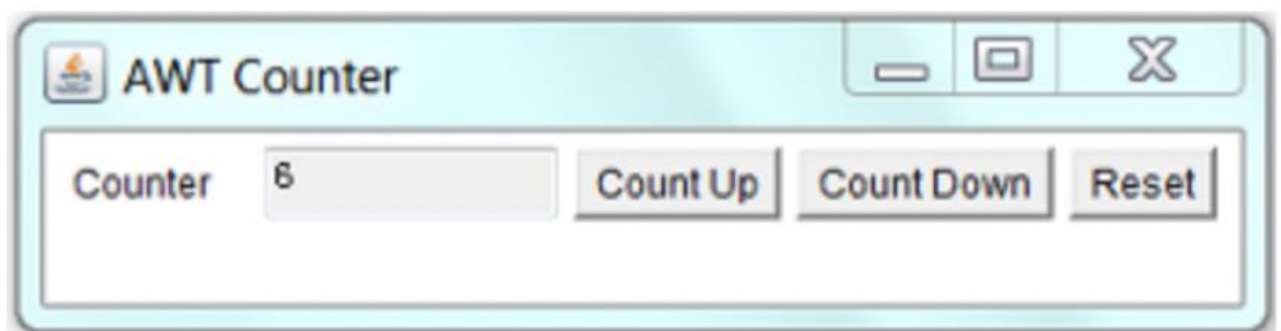
    }

    public static void main(String args[]){
        First f=new First();
    }
}

```



2. Create a GUI counter using JAVA AWT.



```
package Asssignment_3;

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

```

import java.awt.event.ActionListener;

public class Second {
    Second() {

        JFrame jf = new JFrame("AWT Counter");
        JLabel entry = new JLabel("Counter ");
        jf.setLayout(new FlowLayout());

        JFormattedTextField jT = new JFormattedTextField("0");
        jT.setBounds(100,100,100,30);

        JButton b1 = new JButton("Count Up");
        JButton b2 = new JButton("Count Down");
        JButton b3 = new JButton("Reset");

        jf.add(entry);
        jf.add(jT);
        jf.add(b1);
        jf.add(b2);
        jf.add(b3);

        jf.setDefaultCloseOperation(jf.EXIT_ON_CLOSE);
        jf.setSize(400,100);
        jf.setVisible(true);
        b1.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                int value ;
                String val = jT.getText();
                value = Integer.parseInt(val)+1;
                jT.setText(value+"");
            }
        });
        b2.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                int value ;
                String val = jT.getText();
                value = Integer.parseInt(val)-1;
                jT.setText(value+"");
            }
        });
        b3.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                int value= 0;
                jT.setText(value+"");
            }
        });
    }
}

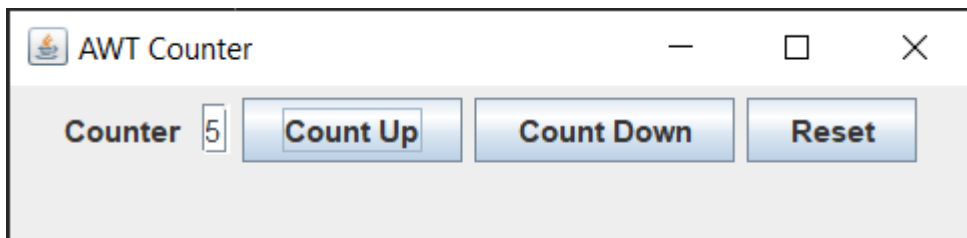
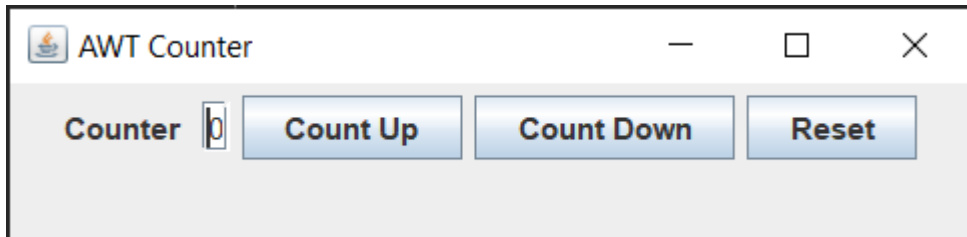
```

```

    }
    });
}

public static void main(String[] args) {
    Second sc = new Second();
}
}

```



3. Write a program that creates a Graphical user interface to perform basic calculations. The user enters two numbers in the text fields, Num1 and Num2. Create a text field to display the results. Create buttons for four operations Add, Sub, Multiply, Divide. When the Divide button is clicked: The division of Num1 and Num2 is displayed in the Result field. If Num1 and Num2 were not integers, the program would throw a Number Format Exception. If Num2 were zero, the program would throw an Arithmetic Exception Display the exception in a message dialog box. Use label field to display the exceptions. Your GUI could look something like this.

```

package Assignment_3;

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

public class Third {
    Third(){
        JFrame jf = new JFrame("Calculator");

        Label l1= new Label("    First Number  ");
        //    l1.setBounds(50,75,75,20);
        Label l2 = new Label("    Second Number ");
        //    l2.setBounds(50,150,75,20);
    }
}

```

```

    Label l3 = new Label("        Result        ");
//    l3.setBounds(50,225,75,20);

    TextField t1 = new TextField(" First value    ");
//    t1.setBounds(150,75,250,20);
    TextField t2 = new TextField("Second Value    ");
//    t2.setBounds(150,150,250,20);
    TextField t3 = new TextField("                ");
//    t3.setBounds(150,225,250,20);

    Button b1 = new Button("Add");
//    b1.setBounds(5,300,20,20);
    b1.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
            int res ;
            res = Integer.parseInt(t1.getText())+Integer.parseInt(t2.getText());

            t3.setText(res+"");
        }
    });
    Button b2 = new Button("Sub");
//    b1.setBounds(15,300,20,20);
    b2.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
            int res ;
            res = Integer.parseInt(t1.getText())-Integer.parseInt(t2.getText());

            t3.setText(res+"");
        }
    });

    Button b3 = new Button("Mul");
//    b1.setBounds(25,300,20,20);
    b3.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
            int res ;
            res = Integer.parseInt(t1.getText())*Integer.parseInt(t2.getText());

            t3.setText(res+"");
        }
    });
    Button b4 = new Button("Div");
//    b1.setBounds(30,300,20,20);
    b4.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
            int res ;
            res = Integer.parseInt(t1.getText())/Integer.parseInt(t2.getText());

```

```

        t3.setText(res+""");
    }
});
Button b5 = new Button("Cancel");
//    b5.setBounds(40,300,20,20);
b5.addActionListener(new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
        t1.setText("");
        t2.setText("");
        t3.setText("");
    }
});

jf.add(l1);
jf.add(t1);

jf.add(l2);
jf.add(t2);

jf.add(l3);
jf.add(t3);

jf.add(b1);
jf.add(b2);
jf.add(b3);
jf.add(b4);
jf.add(b5);

jf.setDefaultCloseOperation(jf.EXIT_ON_CLOSE);
jf.setSize(350,200);
jf.setVisible(true);
jf.setLayout(new FlowLayout());

}

public static void main(String[] args) {
    Third t = new Third();
}

}

```


Calculator

First Number

Second Number

Result

Calculator

First Number

Second Number

Result

Calculator

First Number

Second Number

Result