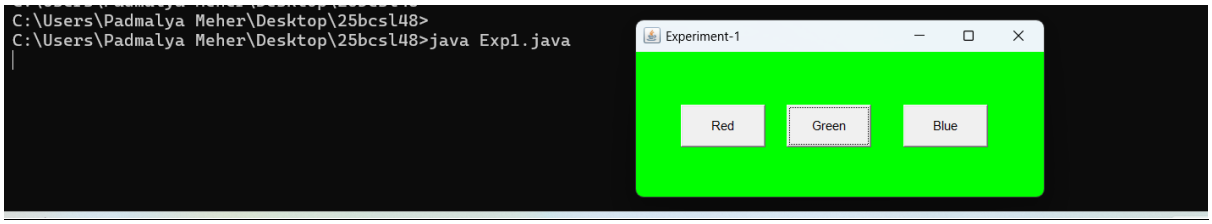
ASSIGNMENT - 10

1. Write a java program to creates three push buttons showing three different colors as their label. When a button is clicked, that particular color is set as background color in the frame.

```
import java.awt.*;
import java.awt.event.*;
public class Exp1 {
    public static void main(String[] args)
  {
     Frame frame = new Frame("Experiment-1");
      Button b1 = new Button("Red");
    Button b2 = new Button("Green");
 Button b3 = new Button("Blue");
    b1.setBounds(50, 80, 80, 40);
    b2.setBounds(150, 80, 80, 40);
 b3.setBounds(260, 80, 80, 40);
      b1.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e)
        {
          frame.setBackground(Color.RED);
        }
     });
b2.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e)
        {             frame.setBackground(Color.GREEN);
        }
      });
        b3.addActionListener(new ActionListener() {
         public void actionPerformed(ActionEvent e)
         {
           frame.setBackground(Color.BLUE);
         }
     });
      frame.addWindowListener(new WindowAdapter() {
        public void windowClosing(WindowEvent e)
```

```
        {
            System.exit(0);
        }
      });
      frame.add(b1);
 frame.add(b2);
 frame.add(b3);
      frame.setBackground(Color.LIGHT_GRAY);
      frame.setSize(400, 300);
      frame.setLayout(null);
      frame.setVisible(true);
   }
}
```

OUTPUT :

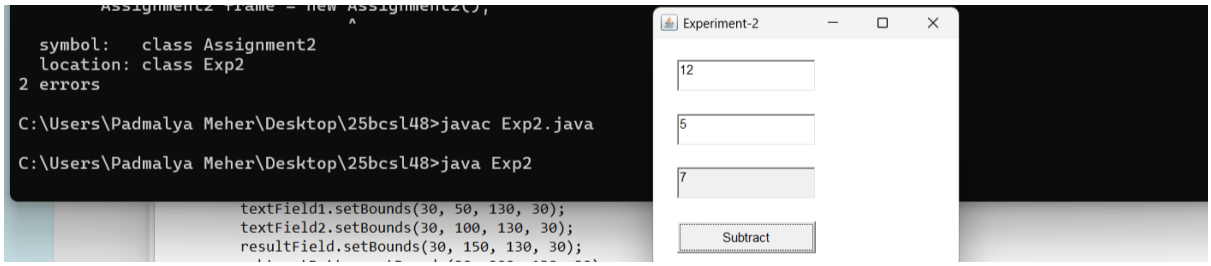


2. Write a java awt program, which will create 3 text field and one button labelled as Subtract. The program will take the input from the two text filed and upon pressing the Subtract button it will display the result in the third text field.

```
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.awt.event.*;
public class  2 extends ExpFrame {
private TextField textField1, textField2, resultField;
private Button subtractButton;
   public Exp2() {
      setTitle("Exp-2");
      setSize(300, 250);
       this.addWindowListener(new WindowAdapter() {
         public void windowClosing(WindowEvent e)
         {
            System.exit(0);
```

```
        }
      });
      setLayout(null);
      textField1 = new TextField();
      textField2 = new TextField();
      resultField = new TextField();
      resultField.setEditable(false);
      subtractButton = new Button("Subtract");
      textField1.setBounds(30, 50, 130, 30);
      textField2.setBounds(30, 100, 130, 30);
      resultField.setBounds(30, 150, 130, 30);
      subtractButton.setBounds(30, 200, 130, 30);
      add(textField1);
      add(textField2);
      add(resultField);
      add(subtractButton);
      subtractButton.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
          try {
            int num1 = Integer.parseInt(textField1.getText());
            int num2 = Integer.parseInt(textField2.getText());
            int result = num1 - num2;
            resultField.setText(Integer.toString(result));
          } catch (NumberFormatException ex) {
            resultField.setText("Invalid Input");
          }
        }
      });
    }
    public static void main(String[] args) {
      Exp2 frame = new Exp2();
      frame.setVisible(true);
    }
}
```

OUTPUT:



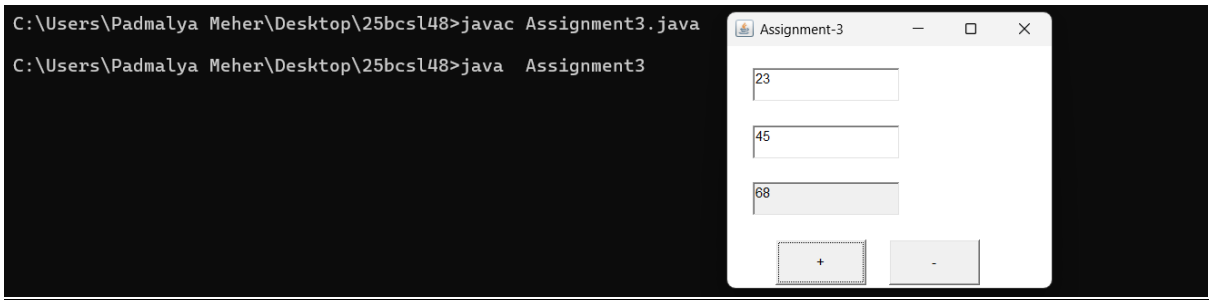
3. Write a java program,which will create 3 text field,one button lelveled as substract and one as add.The program will take the input from the two-text field and upon pressing the substract or add button it will display the result in thethird text field.

```
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.awt.event.*;
public class Assignment3 extends Frame {
private TextField textField1, textField2, resultField;
private Button subtractButton,addButton;
  public Assignment3() {
    setTitle("Assignment-3");
    setSize(300, 250);
     this.addWindowListener(new WindowAdapter() {
       public void windowClosing(WindowEvent e)
       {
          System.exit(0);
       }
    });
    setLayout(null);
    textField1 = new TextField();
    textField2 = new TextField();
    resultField = new TextField();
    resultField.setEditable(false);
    subtractButton = new Button("-");
    addButton = new Button("+");
     textField1.setBounds(30, 50, 130, 30);
     textField2.setBounds(30, 100, 130, 30);
     resultField.setBounds(30, 150, 130, 30);
```

```
        subtractButton.setBounds(150, 200, 80, 40);
 addButton.setBounds(50, 200, 80, 40);
        add(textField1);
        add(textField2);
        add(resultField);
        add(subtractButton);
 add(addButton);
        subtractButton.addActionListener(new ActionListener() {
          public void actionPerformed(ActionEvent e) {
            try {
              int num1 = Integer.parseInt(textField1.getText());
              int num2 = Integer.parseInt(textField2.getText());
              int result = num1 - num2;
              resultField.setText(Integer.toString(result));
            } catch (NumberFormatException ex) {
              resultField.setText("Invalid Input");
            }
          }
        });
        addButton.addActionListener(new ActionListener() {
          public void actionPerformed(ActionEvent e) {
            try {
              int num1 = Integer.parseInt(textField1.getText());
              int num2 = Integer.parseInt(textField2.getText());
              int result = num1 + num2;
              resultField.setText(Integer.toString(result));
            } catch (NumberFormatException ex) {
              resultField.setText("Invalid Input");
            } }
        });  }
    public static void main(String[] args) {
       Assignment3 frame = new Assignment3();
frame.setVisible(true);
}
```

}

OUTPUT :

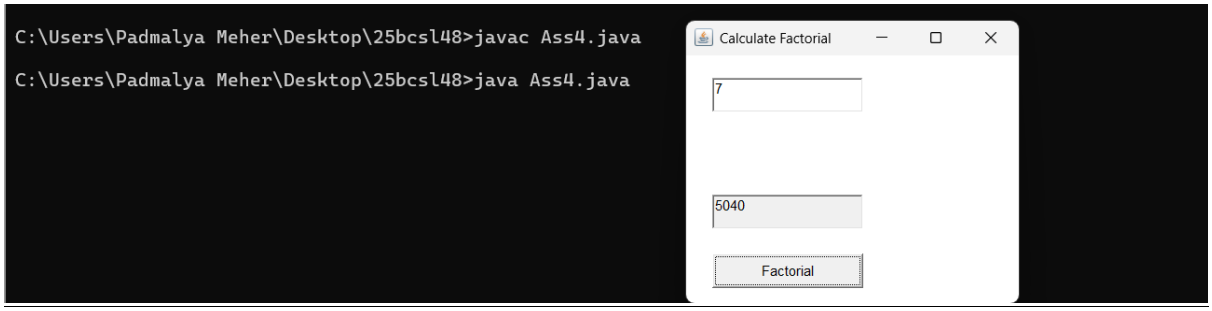


4. Write a java awt program, which will create 2 text field and one button labelled as Factorial. The user will enter a number in the 1st text field and upon pressing the button it will display the Factorial of the number in the 2nd text field.

```
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.awt.event.*;
public class Exp4 extends Frame {
   private TextField textField1,resultField;
   private Button factorialButton;
   public Exp4() {
      setTitle("Calculate Factorial");
      setSize(300, 250);
       this.addWindowListener(new WindowAdapter() {
         public void windowClosing(WindowEvent e)
         { System.exit(0);
         }
      });
      setLayout(null);
      textField1 = new TextField();
      resultField = new TextField();
      resultField.setEditable(false);
      factorialButton = new Button("Factorial");
      textField1.setBounds(30, 50, 130, 30);
      resultField.setBounds(30, 150, 130, 30);
      factorialButton.setBounds(30, 200, 130, 30);
      add(textField1);
```

```
    add(resultField);
    add(factorialButton);
    factorialButton.addActionListener(new ActionListener() {
      public void actionPerformed(ActionEvent e) {
        try {
          int n = Integer.parseInt(textField1.getText());
           long fact=1;
            for(int i=1;i<=n;i++)
             fact*=i;
             resultField.setText(Long.toString(fact));
        }
catch (NumberFormatException ex) {
          resultField.setText("Invalid Input");
        }  }
    });
  }
  public static void main(String[] args) {
Exp4 frame = new Exp4();
frame.setVisible(true);
}
}
```

OUTPUT :



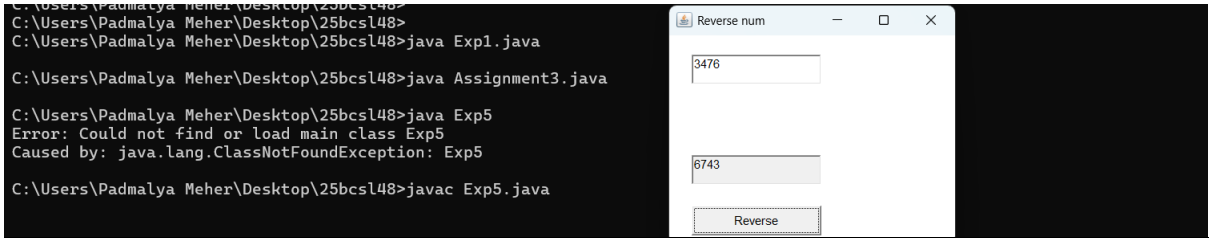
5. Write a java awt program, which will create 2 text field and one button labelled as Reverse. The user will enter a number in the 1st text field and upon pressing the button it will display the reverse of the number in the 2nd text field.

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

```
public class Exp5 extends Frame {
   private TextField textField1,resultField;
   private Button factorialButton;
   public Expt5() {
      setTitle("Reverse num");
      setSize(300, 250);
       this.addWindowListener(new WindowAdapter() {
         public void windowClosing(WindowEvent e)
         {
            System.exit(0);
         }
      });
      setLayout(null);
      textField1 = new TextField();
      resultField = new TextField();
      resultField.setEditable(false);
      factorialButton = new Button("Reverse");
      textField1.setBounds(30, 50, 130, 30);
      resultField.setBounds(30, 150, 130, 30);
      factorialButton.setBounds(30, 200, 130, 30);
      add(textField1);
      add(resultField);
      add(factorialButton);
      factorialButton.addActionListener(new ActionListener() {
         public void actionPerformed(ActionEvent e) {
            try {
              long n = Integer.parseInt(textField1.getText());
      long sum=0;
 while(n!=0)
{
sum=sum*10+n%10;
 n=n/10;
 } resultField.setText(Long.toString(sum));
            }
```

```
catch (NumberFormatException ex) {
            resultField.setText("Invalid Input");
          }}
    });
  }
public static void main(String[] args) {
Exp5 frame = new Exp5();
frame.setVisible(true);
}
}
```

OUTPUT :



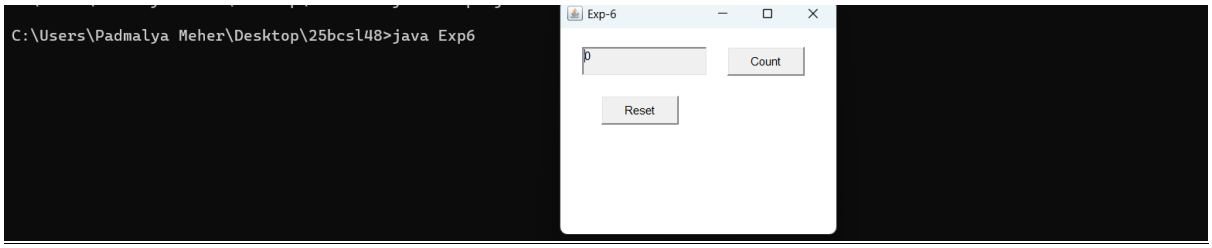
6. Design an AWT GUI application (called AWT Counter). Each time the "Count" button is clicked, the counter value should increase by 1 and each time the Reset button is clicked the counter value should be reset to zero.

```
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.awt.event.*;
public class Exp6 extends Frame {
  private TextField textField1;
  private Button countButton,resetButton;
  static int count=0;
  public EXpt6() {
    setTitle("Exp-6");
    setSize(300, 250);
     this.addWindowListener(new WindowAdapter() {
       public void windowClosing(WindowEvent e)
       {
          System.exit(0);
       }
```

```
    });
    setLayout(null);
    textField1 = new TextField();
    textField1.setEditable(false);
    countButton = new Button("Count");
    resetButton = new Button("Reset");
     textField1.setBounds(30, 50, 130, 30);
    countButton.setBounds(180, 50, 80, 30);
    resetButton.setBounds(50, 100, 80, 30);
     add(textField1);
    add(countButton);
add(resetButton);
   textField1.setText(Integer.toString(count));
       countButton.addActionListener(new ActionListener() {
       public void actionPerformed(ActionEvent e) {
         try {
 textField1.setText(Integer.toString(++count));
         }
catch (NumberFormatException ex) {
           textField1.setText("Invalid Input");
         } }
     });
     resetButton.addActionListener(new ActionListener() {
       public void actionPerformed(ActionEvent e) {
         try {
            count=0;
 textField1.setText(Integer.toString(count));
         } catch (NumberFormatException ex) {
           textField1.setText("Invalid Input");
         } }
     });
  }
  public static void main(String[] args) {
    Exp6 frame = new Exp6();
```

```
      frame.setVisible(true);
   }
}
```

OUTPUT :

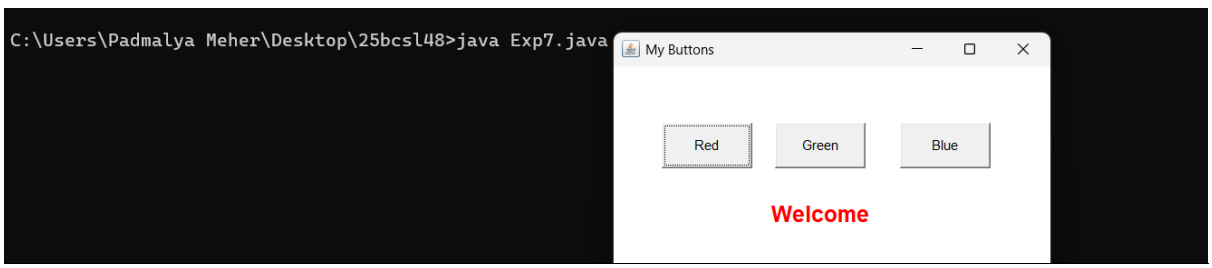


7. Create three color buttons (with caption “Red”, “Blue” and “Green”) and a text label. Initially the text should be displayed in black color. When the user clicks on a particular color button the text should be changed to that particular color as shown in the figure.

```
import java.awt.*;
import java.awt.event.*;
public class Exp7 {
public static void main(String[] args)
{
Frame frame = new Frame("My Buttons");
      Label label=new Label("Welcome");
 label.setAlignment(Label.CENTER);
 label.setFont(new Font("Roboto Condensed Light", Font.BOLD, 20));
Button b1 = new Button("Red");
    Button b2 = new Button("Green");
    Button b3 = new Button("Blue");
     b1.setBounds(50, 80, 80, 40);
     b2.setBounds(150, 80, 80, 40);
     b3.setBounds(260, 80, 80, 40);
 label.setBounds(140, 120, 100, 80);
    b1.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e)
        {
           label.setForeground(Color.red);
        }
      });
 b2.addActionListener(new ActionListener() {
```

```
  public void actionPerformed(ActionEvent e)
        {
           label.setForeground(Color.green);
        }
 });
b3.addActionListener(new ActionListener() {
  public void actionPerformed(ActionEvent e)
        { label.setForeground(Color.blue);
        }
     });
      frame.addWindowListener(new WindowAdapter() {
        public void windowClosing(WindowEvent e)
        {
           System.exit(0);
        }
     });
     frame.add(b1);
 frame.add(b2);
 frame.add(b3);
 frame.add(label);
frame.setSize(400, 300);
frame.setLayout(null);
frame.setVisible(true);
}
}
```

OUTPUT :

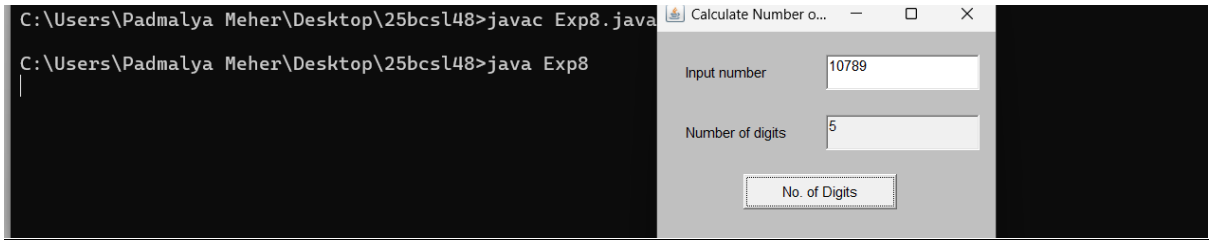


8. Write a AWT program, which creates 2 text field with two labels and one button labelled as Count. The program will take the input from one text filed. When we click the button it will count the number of digits of the given number and display the result in the second field. Label one will be written as "Input number" and second label will show "Number of digits: ".

```
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.awt.event.*;
public class EXp8 extends Frame {
   private TextField textField1,resultField;
   private Button factorialButton;
   private Label lb1,lb2;
   public Exp8() {
      setTitle("Calculate Number of Digits");
      setSize(300, 250);
       this.addWindowListener(new WindowAdapter() {
         public void windowClosing(WindowEvent e)
         {  System.exit(0);
         }
      });
      setLayout(null);
      textField1 = new TextField();
      resultField = new TextField();
      resultField.setEditable(false); // Result field should not be editable
      factorialButton = new Button("No. of Digits");
       lb1=new Label("Input number");
       lb2= new Label("Number of digits");
      lb1.setBounds(30, 50, 130, 30);
      textField1.setBounds(150, 50, 130, 30);
      lb2.setBounds(30, 100, 130, 30);
      resultField.setBounds(150, 100, 130, 30);
      factorialButton.setBounds(80, 150, 130, 30);
      add(textField1);
      add(resultField);
      add(factorialButton);
      add(lb1);
      add(lb2);
      factorialButton.addActionListener(new ActionListener() {
```

```
        public void actionPerformed(ActionEvent e) {
         try {
            int n = Integer.parseInt(textField1.getText());
    int count=0;
    while(n!=0)
{
count++;
    n=n/10;
}
          resultField.setText(Integer.toString(count));
          }
catch (NumberFormatException ex) {
            resultField.setText("Invalid Input");
          } }
    });
  }
  public static void main(String[] args) {
    Exp8 frame = new Exp8();
    frame.setBackground(Color.LIGHT_GRAY);
    frame.setVisible(true);
  }
}
```

OUTPUT :



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DATE OF EXP – 21/11/2025