

Source Code Assignment #3

Problem One Programming Project 4.8

```
public class Die
{
    private final int MAX =6;
    private int faceValue;

    public Die()
    {
        faceValue= 1;
    }

    public int getFaceValue()
    {
        return faceValue;
    }

    public String toString()
    {
        String result =Integer.toString(faceValue);

        return result;
    }

    public int roll() {
        faceValue= (int)(Math.random() * MAX) +1;
        return faceValue;
    }
    public void setFaceValue(int value) {
        faceValue= value;
    }

}

public class RollingDice2
{
    public static void main (String[] args)
    {
        Die die1, die2;
        int sum;
        die1 =new Die();
        die2 =new Die();
        die1.roll();
        die2.roll();
        System.out.println("Die One: " + die1 + ", Die Two: " +die2);
        die1.roll();
        die2.setFaceValue( 4 ) ;
        System.out.println ("Die One: " + die1 + ", Die Two: " +die2);

        sum=die1.getFaceValue() +die2.getFaceValue();
        System.out.println ("Sum: "+sum);
    }
}
```

Problem Two Programming Project 4.13

```
import javax.swing.JFrame;
public class Fahrenheit {
    public static void main (String[] args){
        JFrame frame = new JFrame("Fahrenheit");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        FahrenheitPanel panel = new FahrenheitPanel();

        frame.getContentPane().add(panel);
        frame.pack();
        frame.setVisible(true);
    }
}
```

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

public class FahrenheitPanel extends JPanel
{
    private JLabel inputLabel, outputLabel, resultLabel;
    private JTextField fahrenheit;
    private JButton push;

    public FahrenheitPanel(){
        inputLabel = new JLabel ("Enter Fahrenheit temperature: ");
        outputLabel = new JLabel ("Temperature in Celsius: ");
        resultLabel = new JLabel("---");
        push = new JButton("Calculate!!");

        fahrenheit = new JTextField (5);
        fahrenheit.addActionListener(new TempListener());
        push.addActionListener(new TempListener());
        add (inputLabel);
```

```

        add (fahrenheit);
        add (outputLabel);
        add (resultLabel);
        add(push);
        setPreferredSize(new Dimension(300, 75));
        setBackground(Color.yellow);

    }

private class TempListener implements ActionListener
{
    public void actionPerformed( ActionEvent event){
        int fahrenheitTemp = 0, celsiusTemp;
        String text = fahrenheit.getText();
        fahrenheitTemp =Integer.parseInt(text);
        celsiusTemp = (fahrenheitTemp-32)*5/9;

        resultLabel.setText(Integer.toString(celsiusTemp));

    }
}
}

```

Problem Three Programming Project 5.10

```

package assignment3problem4;

public class Transactions {
    public static void main (String[] args){
        System.out.println("This is to test my Account Class");
        Account account1 = new Account ("George", 2301, 200);
        System.out.println("This Account has $200");
        System.out.println("First we will try and remove $201");
        account1.withdraw(201, 1.50);
    }
}

```

```

        System.out.println("Then we will try and add $-1");
        account1.deposit(-1);
    }

}

package assignment3problem4;

import java.text.NumberFormat;
public class Account {

    private final double RATE = 0.035;

    private long acctNumber;
    private double balance;
    private String name;

    public Account (String owner, long account, double initial) {
        name= owner;
        acctNumber = account;
        balance = initial;
    }

    public double deposit (double amount){
        if (amount<= 0){
            System.out.println("Incorrect deposit amount"); }
        else{
            balance= balance +amount;
        }
        return balance;
    }

    public double withdraw (double amount, double fee){
        if (balance< (amount+fee) ) {
            System.out.println("Insufficient funds");}
        else{
            balance= balance - amount - fee;
        }
        return balance;
    }

    public double getBalance(){
        return balance;
    }

    public String toString(){
        NumberFormat fmt = NumberFormat.getCurrencyInstance();
        return acctNumber + "\t" +name +"\t"+ fmt.format(balance);
    }

}
}

```

Problem Four Programming Project 5.16

```
package assignment3problem4;
```

```

import javax.swing.JFrame;
public class Statistics {
    public static void main (String[] args){
        JFrame frame = new JFrame("Text Statistics Calculator!!!");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        StatisticsPanel panel = new StatisticsPanel();

        frame.getContentPane().add(panel);
        frame.pack();
        frame.setVisible(true);
    }
}

```

```

}

```

```

package assignment3problem4;

```

```

import javax.swing.*;

```

```

import java.awt.*;

```

```

import java.awt.event.*;

```

```

public class StatisticsPanel extends JPanel{

```

```

    private JLabel Length;

```

```

    private JLabel Length_cal;

```

```

    private JLabel Words;

```

```

    private JLabel Words_cal;

```

```

    private JTextField text;

```

```

    public StatisticsPanel(){

```

```

        text = new JTextField(25);

```

```

        text.addActionListener(new TempListener2());

```

```

        Length = new JLabel ("The length of your text is: ");

```

```

        Words = new JLabel ("The average length of your words are: ");

```

```

        Length_cal = new JLabel ("--- ");

```

```

        Words_cal = new JLabel ("--- ");

```

```

        add(text);

```

```

        add(Length);
        add(Length_cal);
        add(Words);

        add(Words_cal);
        setPreferredSize(new Dimension(300, 300));
        setBackground(Color.WHITE);
    }

private class TempListener2 implements ActionListener {

    @Override
    public void actionPerformed(ActionEvent Event) {
        String More_text = text.getText();
        int len_text = More_text.length();
        Length_cal.setText(Integer.toString(len_text));

        int words_in = More_text.split("\\s+").length;
        Words_cal.setText(Integer.toString(words_in));
    }
}
}

```

Problem Five Programming Project 6.9

```

package assignment3problem5;
import java.util.*;
public class LetterCounter {

```

```

    public static void main(String[] args){
        String entered_string;
        int vowel = 0;
        int non_vowel =0;
        String String_part;
        Scanner scan = new Scanner (System.in);
        System.out.println("We will calculate the number of vowels and regular
letters used.");
        System.out.println("Please Enter your text:");
        entered_string= scan.nextLine();

        for (int counter = 0; counter<entered_string.length(); counter++){
            String_part = entered_string.substring(counter,counter+1);
            if(String_part.equalsIgnoreCase("a")== true
||String_part.equalsIgnoreCase("e")== true|| String_part.equalsIgnoreCase("i")==
true||String_part.equalsIgnoreCase("o")== true|| String_part.equalsIgnoreCase("u")==
true){
                vowel++;
            }
            else
            {
                non_vowel++;
            }

        }

        System.out.println("You have "+ vowel +" lower case vowels and
"+non_vowel +" not vowels");
    }
}

```

Problem Six Programming Project 6.18

```

package assignement3problem6;

import javax.swing.JPanel;

import java.awt.*;

@SuppressWarnings("serial")
public class DrawingPanel extends JPanel
{
    public void paintComponent(Graphics House){
        super.paintComponent(House);
        this.setBackground(Color.blue);
    }
}

```

```

House.setColor(Color.red);

House.fillRect(125, 125, 300, 300);

House.setColor(Color.GREEN);

House.fillRect(250, 325, 50, 100);

House.setColor(Color.white);


House.fillRect(175, 250, 50, 50);

House.fillRect(325,250 , 50, 50);

int num_post = 50;

int Space = 0;

for(int count = 0; count< num_post; count++)
{
    House.setColor(Color.white);

    House.fillRect(Space, 370, 5,80);

    Space+=10;

}

House.fillRect(0, 380, 600, 2);

House.fillRect(0, 410, 600, 2);

}

}

package assignment3problem6;
import javax.swing.*;

public class DrawingAssignment {
    public static void main(String[] args){
        JFrame frame = new JFrame("My House");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}

```



```
        DrawingPanel Window = new DrawingPanel();  
        frame.add(Window);  
        frame.setSize(500,500);  
        frame.setVisible(true);  
    }  
}
```