**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** assignement3problem6;

**import** javax.swing.\*;

**public** **class** DrawingAssignement {

**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**);

}

}