

0360-212 Winter 2017 Lab Assignment 4

Due@Bb: Feb 20, 11:59pm

Q1:

Understand Initialization more.

week4/Initialization/StaticInitialization.java

please make sure you understand every output from this program.

Debug Java Programs.

Q2:

Debug the following program.

```
// Debugging the following program Problem
// be sure to comment your changes
// what does this program do?

public class Lab4_Debug {
    public static void main(String str[]) {

        String students = JOptionPane.showInputDialog(
            "Please enter the number of students you wish to average" );

        int students2 = Integer.parseInt( students );
        int NumOfStudents = students2 ;
        int counter = 1;

        double total = 0, previousNumber = 0, newMaximum = 0, newMinimum = 0;

        while ( students2 != 0 ) {
            String si = JOptionPane.showInputDialog( "Please enter a
grade" );

            double givenNum = Double.parseDouble( si );
            total = total + givenNum;

            if ( counter == 1 ) {
                previousNumber = givenNum;
                newMinimum = givenNum;
            }
        }
    }
}
```

```

        if ( newMaximum < givenNum )
            newMaximum = maximum( previousNumber, givenNum );

        if ( newMinimum > givenNum )
            newMinimum = minimum( previousNumber, givenNum );

        students2--;
        counter++;
        previousNumber = givenNum;
    }

    double averagel = average( total, NumOfStudents );

    JOptionPane.showMessageDialog(null, "The maximum: " +
newMaximum +
        "\nThe Average: " + averagel + " \nThe minimum: " +
newMinimum);

        System.exit(0);
    }

    public double average( double x, y );
    {
        return x / y;
    }

    public double maximum( double x, double y )
    {
        Math.max( x, y );
    }

    public double minimum( double x, float y )
    {
        return min( x, y );
    }
}

```

Q3:

A Java program comprises four Java source code files shown below.

This program is not working.

You job is to debug the program and make it work. Comment the source code.

Color.java

```
public class Color {
    private String color;

    public Color()
    {
        return setColor( "" );
    }

    public void setColor()
    {
        color = "black";
        return color;
    }

    public void setColor( String m )
    {
        color = m;
        return color;
    }

    public String toColorString()
    {
        return color;
    }
}
```

Miles.java

```
import java.text.DecimalFormat;
public class Miles {
    private final double miles;

    public Miles()
    {
        setMile( 0.0 );
    }

    public void setMile( double m )
    {
        miles = ( ( m >= 0.0 && m <= 200000 ) ? m : 0 );
    }

    public String toMilesString()
    {

```

```

        DecimalFormat formatMile = new DecimalFormat( "0" );
        return formatMile.format( miles );
    }
}

```

Person.java

```

public class Person {
    private String firstName;
    private String lastName;

    public Person( String firstName, String lastName )
    {
        lastName = getLastName();
        firstName = getFirstName();
    }

    public String getFirstName()
    {
        return firstName;
    }

    public String getLastName()
    {
        return lastName;
    }
}

```

Test.java

```

import javax.swing.JOptionPane;
public class Test {

    public static void main( String args[] )
    {
        String firstName = JOptionPane.showInputDialog( "Enter your
First name" );
        String lastName = JOptionPane.showInputDialog( "Enter your
Last name" );
        String color2 = JOptionPane.showInputDialog( "What color is
your car? " );
        String miles = JOptionPane.showInputDialog( "how many miles
have you" +
            " driven in your car? " );

        double miles2 = Double.parseDouble( miles );

        Miles mile = new Miles();
        Color color = new Color();
        Person person = new Person( firstName , lastName );

        mile.setMile( miles2 );
        color.setColor( color2 );

        String output = person.getFirstName()+ " " +
person.getLastName() +
            " drove his/her " + color.toString() + " car " +
            " for " + mile.toUniversalString() + " Miles";
    }
}

```

```
        JOptionPane.showMessageDialog( null, output, "Testing class  
Race",  
        JOptionPane.INFORMATION_MESSAGE );  
        System.exit( 0 );  
    }  
}
```