CSE341: PROGRAMMING LANGUAGES

Java Warmup Assignment

due: Tuesday, Jan 20

The purpose of this assignment is to try out Java, write an Applet, and put it together with HTML, so it can be displayed on your home page. (If you don't have one, this is a good quarter in which to make one!)

The Assignment:

Write, debug, and execute a Java program that inputs the dimensions of the available space and the size of a bounding box and draws rectangles and ovals according to the following functional specifications:

- Your program should input the four String values xmax, ymax, xbox, and ybox and convert to integers.

- It should first draw some kind of title strings in at least two different fonts and some color other than red or blue. You can pick your own title for your work. Your name should come after the title. Anything else you want to say is up to you. For example:

```
          MY FIRST JAVA APPLET

       by Chris C. Collegestudent
```

- It should then draw a kind of checkerboard pattern of red ovals and blue rectangles, all of which have bounding box of size xbox by ybox and all of which fit into the available space of xmax by ymax.

- The first (top leftmost) object drawn should be a red oval. To its right should be a blue rectangle, then another red oval, another blue rectangle, until there is no more room to draw the next one in this first "row".

- Beneath the very first red oval should come a blue rectangle. This is the start of the second "row". It should be followed by a red oval, then a blue rectangle, etc. until that row ends.

- The two kinds of rows should alternate until there is no more room for another row at the bottom of the available space.

- In both the horizontal and vertical directions, leave a space of 10 between adjacent objects.

For example,when xmax=500, ymax=500, xbox=100, and ybox=100, with space of 10 in between objects, only 4 objects can fit in each row and there are only 4 rows. The pattern looks like this:

```
RED OVAl     BLUE RECT     RED OVAL     BLUE RECT

BLUE RECT    RED OVAL      BLUE RECT    RED OVAL

RED OVAl     BLUE RECT     RED OVAL     BLUE RECT

BLUE RECT    RED OVAL      BLUE RECT    RED OVAL
```

Testing:

Test your program on several different box sizes in the 500 x 500 available space. Don't make all square boxes. See what happens when the ovals are ellipses, rather than circles.

To Turn in:

Show us that your program works and turn in a listing of the java code, commented appropriately to show what it is doing. At the beginning of the code, put a HEADER in the following format:

```
/*
TITLE:     The title of your Java program goes here
AUTHOR:    Your name goes here
DATE:      The date of completion goes here
PURPOSE:   A short statement of the purpose of the program goes here.
*/
```

The following HTML code can be used to call on your Applet, assuming your Applet code is stored in file "mycode.class" and that the class name INSIDE the file is also "mycode".

```
<HTML>
<HEAD>
<TITLE>My Java Applet</TITLE>
</HEAD>
<BODY>
<H3> My Java Applet </H3>
<P>
<APPLET CODE="mycode.class" WIDTH=500 HEIGHT=500>
<PARAM NAME=xmax VALUE="500">
<PARAM NAME=ymax VALUE="500">
<PARAM NAME=xbox VALUE="200">
<PARAM NAME=ybox VALUE="100">
A Java applet should appear here.
</APPLET>
</BODY>
</HTML>
```

The following Java Code is the shell of what you are to write:

```java
import java.awt.Graphics;
import java.awt.Font;
import java.awt.Color;

public class mycode extends java.applet.Applet {

    String xmax,ymax,xbox,ybox;

    public void init() {
        this.xmax = getParameter("xmax");
        this.ymax = getParameter("ymax");
        this.xbox = getParameter("xbox");
        this.ybox = getParameter("ybox");

    }


    public void paint(Graphics g) {


    }
}
```