Figure Project 8.6

Overall Plan (Algorithm - step-by-step plan to make it happen):

1. The Figure class will have a center, draw, and erase method.

2. It will call the Triangle and Rectangle classes and will be overloaded by them, respectively, when they’re called

3. The user will input their selection upon running the program

4. The users selection will enter a do-while loop and will output the corresponding numbers’ picture will display.

5. The user will have the option to erase the program or reload the menu.

/\* Course CS112 Days & Time: September 10, 2015

\* Chapter Number: 8 Project Number: 6

\* Programmer: Broderick Higby

\* Program Title: Figure

\* Program Description: This program asks the user what type of shape they want to see

\* then takes their input and outputs a shape. The objective was to use late-binding and

\* polymorphism while designing the program. This is the base class,

\* it calls all the other classes and outputs to the Demo class.

\*/

public class Figure

{

//This center method is called in the demo class

public void center()

{

draw();

erase();

System.out.println("This is the center method being called");

}

//A cool guitar that is called from the demo class

public void draw()

{

System.out.println(" \_,., ");

System.out.println(" ,' ,'");

System.out.println(" / ,'");

System.out.println(" / , ");

System.out.println(" / ,");

System.out.println(" / '");

System.out.println(" / ,'");

System.out.println(" '.\_\_|");

System.out.println(" | |");

System.out.println(" |\_\_|");

System.out.println(" | |");

System.out.println(" |\_\_|");

System.out.println(" | |");

System.out.println(" |\_\_|");

System.out.println(" | |");

System.out.println(" |\_\_|");

System.out.println(" |, |");

System.out.println(" |--|");

System.out.println(" |\_\_|");

System.out.println(" | |");

System.out.println(" |--|");

System.out.println(" |\_\_|");

System.out.println(" |\_\_| ,-.");

System.out.println(" |\_\_|' ,' /");

System.out.println(" \_,.-' ',\_,' o /");

System.out.println(" / 8888 /");

System.out.println(" | /");

System.out.println(" 1 /");

System.out.println(" `L 8888 /");

System.out.println(" | /");

System.out.println(" / ==== \\");

System.out.println(" / \_\_\_\_ \\");

System.out.println(" / (\_\_\_\_) o \\");

System.out.println(" / o \\");

System.out.println(" / o ,'");

System.out.println(" / \_,.'^");

System.out.println(" / \_\_,.--~^");

System.out.println(" ',,..--~~^ ");

}

public void erase() //Spaces out the menu when selected

{

for(int i = 0; i < 50; i++)

{

System.out.println("\n");

}

}

}

/\* This is the child class, it calls from the base class "Figure"

\* and overloads the "erase" and "draw"

\* methods in the Figure class to output a triangle in the demo class.

\*/

public class Triangle extends Figure

{

public void draw() //draw method overrides Figure classes method

{

System.out.println(" \* ");

System.out.println(" \* \* ");

System.out.println(" \* \* ");

System.out.println(" \* \* ");

System.out.println(" \*\*\*\*\*\*\*\*\* ");

}

public void erase() //erase method overrides Figure classes method

{

for(int i = 0; i < 50; i++)

{

System.out.println("\n");

}

}

}

/\* Description: This is the child class, it calls from the base class "Figure" and overloads the "erase" and "draw"

\* methods in the Figure class to output a rectangle in the demo class.

\*

\*/

public class Rectangle extends Figure

{

//A pretty cool rectangle that overrides the Figure class and called to the demo class.

public void draw()

{

System.out.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.out.println("\* \*");

System.out.println("\* \*");

System.out.println("\* \*");

System.out.println("\* \*");

System.out.println("\* \*");

System.out.println("\* \*");

System.out.println("\* \*");

System.out.println("\* \*");

System.out.println("\* \*");

System.out.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

}

//"Erase" spaces out the lines until the previous selection is no longer visible

public void erase()

{

for(int i = 0; i < 50; i++)

{

System.out.println("\n");

}

}

}

/\* Description: This is the demo class for the Figure program, it uses late binding to call the methods from Figure,

\* Triangle, and Rectangle classes to override the Figure method

\*/

import java.util.Scanner;

public class FigureDemo

{

public static void main(String[] args)

{

Scanner keyboard = new Scanner(System.in); //Takes user input

Figure userInput; //userInput is the objecct that is later called

int input;

//Using a do-while loop enables selection of a figure.

do

{

System.out.println("Welcome to the cool drawing app");

System.out.println("Please pick what you'd like to be drawn");

System.out.println("Press '1' to draw a Triangle");

System.out.println("Press '2' to draw a Rectangle");

System.out.println("Press '3' to draw a surprise figure");

//Takes user input and calls the corresponing class

input = keyboard.nextInt();

if (input == 1)

{

userInput = new Triangle();

userInput.draw();

}

else if(input == 2)

{

userInput = new Rectangle();

userInput.draw();

}

else if(input == 3)

{

userInput = new Figure();

userInput.draw();

}//Ask the user about if

System.out.println("Press '1' to erase \nOr 4 to reset");

input = keyboard.nextInt();

if (input == 1)

{

userInput = new Figure();

userInput.erase();

}

if ((input < -1) || (input < 3))

{

System.out.println("Please make a valid selection");

}

}while(input != -1);

}

}