

1 Lab 5 Golden Ratio

Goals

The goals for this lab are:

1. More practice using variables
2. More practice laying out designs in 2D space and using variables to scale and position shapes
3. Applying the golden ratio to a design to make a pleasing image
4. Apply color design to enhance design
5. Make a picture of a scene with different color and scaled objects that fit into a golden rectangle (9 levels deep).

Modality

Pair or Individual (per instructors specifications)

Details

Task: You must create an image using Processing of a scene that explores **the golden ratio** (approximated by at least 1.618). Your ‘sketch’ of the scene must:

- fit into a rectangle that conforms to the golden ratio
- the dimensions of the rectangle must be created using variables such that you can easily resize your sketch
- the smallest side of one edge of the rectangle must be at least 400 pixels

- includes duplicate (basically square shaped) shapes/design for each region of the rectangle 9 sequentially smaller duplicates of the main design
- each 'design' must include at least 2 shapes and be connected to the next design
- be in color - in fact you must alternate the color for each 'level' of the design with pleasing (either contrasting or harmonizing) colors.
- each design must be located and scaled using variables (one of which is the golden ratio)
- be prepared to modify the variables that control the size of your sketch in order to produce two different sized sketches (ie all shape locations and scales must be relative to these variables)

Be prepared to talk about your core design and colors. You are welcome to sketch your scene first to get an idea of layout.

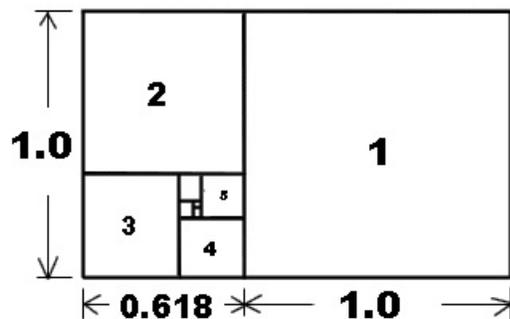


Figure 1: Basic layout of your design must conform to the above layout and scaling.

Demo:

In order to receive credit for this lab, you and your partner must demo your sketch to your instructor **and you must demonstrate changing the size variables to produce a different sized sketch that still appears correctly!** You can assume that your sketch will only need to produce rectangles that conform to the golden ratio.

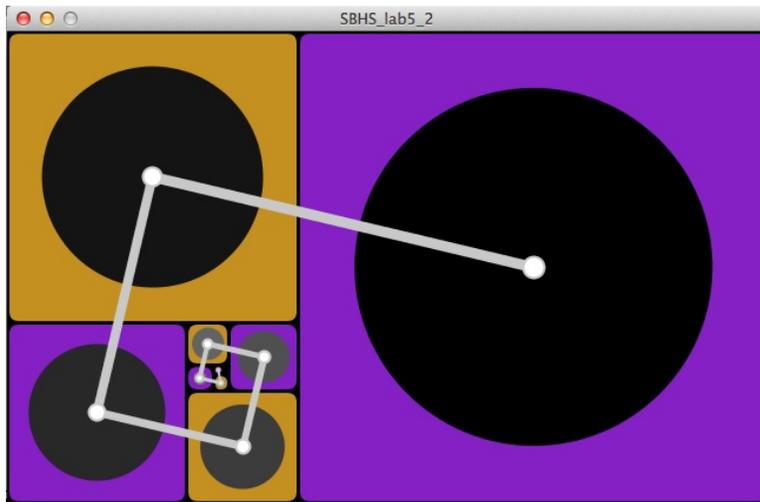


Figure 2: An example design.

2 Resources

Please use the ‘Color Selector’ in Processing that can be found under the **Tools** menu.

Recall that to create a custom shape in Processing, you can use:

```
beginShape();  
vertex(0, 400);  
vertex(0, 15);  
vertex(6, 10);  
vertex(64, 120);  
endShape(CLOSE);
```