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**Lab 3 – Loops Exercises**

<https://rkkuhn.github.io/N220Spring2023/>

**Algorithm 1st Project – Over and Out**

**Requirements:** Write the markup and JavaScript to place a square div on the page (100px x 100px), with a blue background. Using onmouseover and onmouseout (instead of "onclick"), change the div's color to black when the mouse is over the div, and back to blue when the mouse leaves.

**Expected Output:**

A blue square with white background

Description automatically generated

Color when the mouse is outside the square.

A black square with white background

Description automatically generated

Color when the mouse is inside the square.

**Sudo Code:**

Create the div ID = “myDiv”

The style will be set with width and height to 100px and the background color to blue.

Create two scripts:

One that changes the color to black when the mouse is inside the square.

Two changes back to blue when the mouse is outside the square.

**Algorithm 2nd Project – Pyramid**

**Requirements:** Canvas size: 400x400

**Requirements:** Using nested loops (one within the other) recreate this composition with only one line having a drawing command on it (rect/circle/line/etc..).

**Expected Output:**

A red squares in a row

Description automatically generated

**Sudo Code:**

Setup canvas size 400x300

Function draw()

Background white

Stroke(255)

Color fill is red (255, 0, 0)

Using size 40 and grid\_size to create the blocks

For loop (var i=0; i<4; i++) – only looping 4 times

For (var j=0; j<=I; j++) – this sets up the looping between j and I grid\_size

Draw a rectangle with (j\*grid\_size, i\*grid\_size as top let coordinates and

Grid\_size as length and width

**Algorithm 3rd Project – Circle inside of Circles**

**Requirements:** Canvas size: 400 x 300

Use a loop to recreate this composition with only one line having a drawing command on it (rect/circle/line/etc..).

**Expected Output:**

A black and white circular pattern

Description automatically generated

**Sudo Code:**

Function setup ()

createCanvas(400, 300)

background (211, 211, 211) gray-ish

function draw()

background (211, 211, 211)

use noFill so the lines will show up on the code otherwise, you get one big white

circle

for (var i=0; i<15; i++) – this is the loop to create 15 circles starting at the center.

Circle (200, 150, 1\*10) – this creates the circle starting at the center and increases by 10

each loop until it ends.

***Reflection:*** I think the hardest one to code was the first assignment, “FizzBuzz.” I had to research on the internet to get my circles, squares, and colors to work correctly. I did use Stack Overflow. I enjoyed the challenge and kept at it until I found a working solution. The “Circles Inside of Circles” was easy. I remembered it from our lecture. For the “Pyramid” one, I had to laugh when I saw the comment, “Use nested loops”. Professor Harris docked me on my final project for using nested loops. I am pretty good at writing nested loops. I know he wanted me to expand my knowledge and try to code it in a different way.