

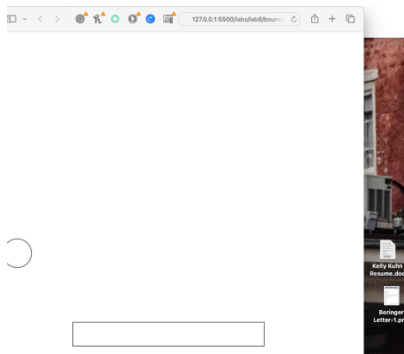
Lab 8 – Functions

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

Algorithm 1st Project – Bounce off Rectangle

Requirements:

Expected Output:



Sudo Code:

HTML

Normal Code

JS

*Create global variables for circle x, y, xspeed, yspeed, and radius.
Create global variables for rectangle width, height, x and y position, speed*

*Function setup(){
 createCanvas (800, 700)
 circle_x = width - 2*circle_radius; //width is the screen width which is a built in*

```

        circle_y = 2*circle_radius
    }

```

keyword

```

function draw(){
    create background color to white

    make an ellipse, aka circle

    add the movement position for circle

    make the rectangle move,
    check to see if it moved off screen,
    check for collision

```

Create a function for what happens when the circle collides with the rectangle

Algorithm 2nd Project – Divisible by Seven

Requirements: Create an application with a moving circle and a rectangle at the bottom of the screen. Using a rectangular hit test, have the ball bounce when the circle collides with the rectangle.

for your collision code:

```

function collideRect(circleX, circleY, rectX, rectY, rectW, rectH) {

    var colliding = false;

    if(circleX > rectX && circleX < rectX + rectW) {

        if(circleY > rectY && circleY < rectY + rectH) {

            return true;

        }

    }

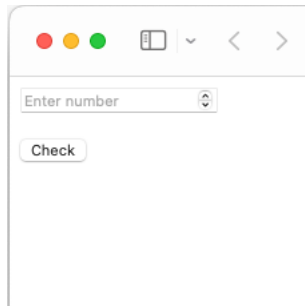
    return false;

}

```

Remove the text in the input when the user clicks the button.

Expected Output:

A screenshot of a web browser window. The browser's address bar is empty. The page content consists of a single text input field with the placeholder text "Enter number" and a small clear button (an 'x' in a circle) to its right. Below the input field is a button labeled "Check".

Sudo Code:

HTML

Create the input command for the user's number

Create a div statement so that js can access the user's input

Create a button

JS

Create function checkDivisibility

Use a let statement `x = document.getElementById` from the HTML side

Do the math to see if the number is divisible by 7

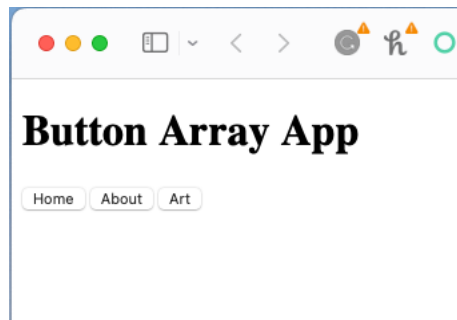
If it is true, print statement

If not true, go to else and print the statement not divisible by 7

Algorithm 3rd Project – Show Info

Requirements: Create an application with an array of strings, at least three. Create three buttons that are associated with those strings. (For instance, you might have 'home', 'about', and 'art'), and a div to display those strings. Using a single function, make it so that when a button is clicked, the div displays the string associated with it in that array. ("home" button shows index 0, "about" shows index 1, so on..).

Expected Output:



Sudo Code:

HTML

Create the different buttons:

Home

About

Art

Create a div statement for P5.js

JS

Create the array string

Let contentArray = ['Home content goes here', 'About content goes here.', 'Art content goes here'];

Function showContent(index){

Get the dive element

Check if the index is valid

Set the div content to the corresponding string

Set and else statement as a catch-all others

Reflection: The Show Information reminded me of other programs I have written using strings and arguments together to show an outcome. When I started at IUPUI, arrays were complex for me to grasp, but now I noticed it was a lot easier doing the array assignment. I know that with

python, we used a program called bottle to connect the .py file, database.csv to the html files to display a UI. How hard is it to do the same thing with P5? I have started the Stop Light but haven't finished the code. I have been at this for about 6 hours and needed a break. I aim to return tomorrow before it is due to finish the code. I can tell I am getting comfortable this time, the code didn't seem to take as long as it has in the past.