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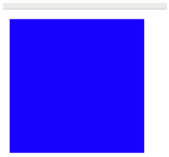
Lab 5 – Loops Exercises

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:



Color when the mouse is outside the square.

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.

```
                var div = document.getElementById("myDiv");
        div.onmouseover = function() {
        div.style.backgroundColor = "black";
        };
```

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

```
        div.onmouseout = function() {
        div.style.backgroundColor = "blue";
        };
```

Algorithm 2nd Project – Peak Pixels

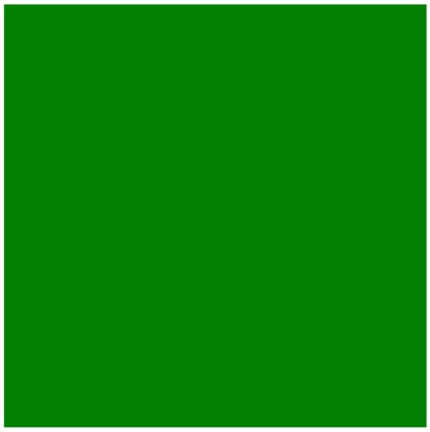
Requirements: Write the markup and JS to place a square div on the page. 100px by 100px, green background. Please make it so that when the div clicks, it increases its size by 10% every time.

Hints:

- Make a variable to store the height and with of the object
- to set the height and width, set to varName + "px"
- 10% is .1 bigger,or 1.1 * the original size

Expected Output:

The square starts out at this size.



As you continue to click on the box it will grow bigger and bigger by 10%.

Sudo Code:

In the HTML document, create a style sheet:

#square{
Set the height to 100 px.
Set the width to 100 px.
Define the cursor as "pointer."

In the body, create the div id = square
Onclick = "peakPixels()"

In the Java document:

Create a function for setup
Create a function for draw
(Note: I removed those items was not needed in this assignment.)

Create an empty function called peakPixels from the HTML div.

Access the div using id square which was called out in the HTML body

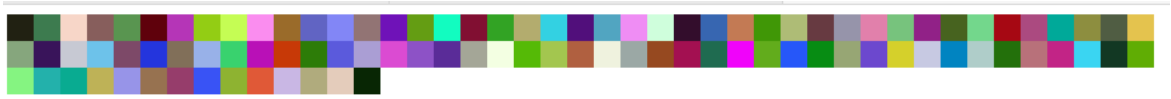
Create the width using: var div_width = x.offsetWidth + the math computation
(0.1 * x.offsetWidth) + "px")
Create the height using: div_height = x.offsetHeight + the math computation
(0.1 * x.offsetHeight) + "px")

Create the arguments for width and height

Algorithm 3rd Project – Circle inside of Circles

Requirements: Write a loop that puts 100 square divs (20px x 20px) on the page, each with a different background color. Set their float CSS attribute to left.

Expected Output:



After every refresh the colors change.

Sudo Code:

For (var i = 0; i < 100; i++)

Standard start for a for loop. Set i = 0, then make i <, >, or = some number. Finish the statement by adding 1 for every time the loop is complete until the conditional variable is complete.

Create the div element

Set the height and width to 20 px using:

element.style.height = “20px”
element.style.width = “20px”

element.style.float = “left”

Generate three random values between 0 and 255 using RGB

var r = Math.floor(Math.random)_ * 256)
var g = Math.floor(Math.random)_ * 256)
var b = Math.floor(Math.random)_ * 256)

Next we use style to create the background color for each element
The , are needed to create the random RGB colors to add the commas we have to use “,”.

element.style.background = “rgb(“ + r + “,” + g + “,” +b+ “)”

Append the element meaning of each square because we are creating a parent-child dependency. The first block is the parent, then every block after is the child. The child uses the parent's RGB code and randomly duplicates itself into a new color.

Reflection: I have to say this homework assignment got me to think about it. I reviewed my notes to ensure I was on the right path, used the internet to look up commands, and even stepped away to clear my head when I would hit a wall. I like it when assignments challenge me.