Agenda 10/6

- **Continue with Keyboard & Mouse Interactions**
- **Arrays (Creating lists of objects)**
- **In-class Exercise #8**

Mouse & Keyboard Interactions

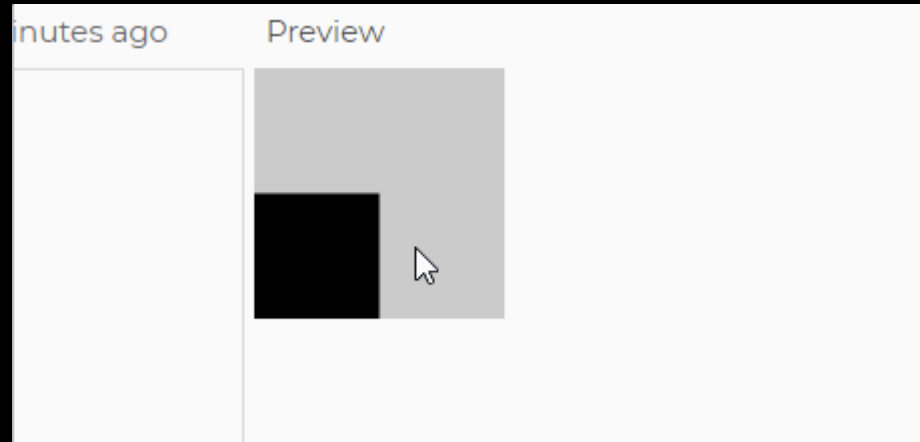*We can interact with our p5.js with the mouse & keyboard*

- **Helpful Functions: -> Events that interrupt the flow of your sketch**
  - keyPressed()
  - keyReleased()
  - mouseClicked()
  - doubleClicked()
- **Helpful Variables**
  - mouseX
  - mouseY
  - keyCode

More Examples: https://p5js.org/learn/interactivity.html

Class Examples

- **MousePressed: https://editor.p5js.org/scotchANDsolder/sketches/ClBe0dRhS**
- **MouseLeftRight: https://editor.p5js.org/scotchANDsolder/sketches/S4OaJSjaD**
- **LeftRightMiddle:**
- **https://editor.p5js.org/scotchANDsolder/sketches/qW4ZNvyM-**
- **MouseOnSquare: https://editor.p5js.org/scotchANDsolder/sketches/0KDdkcC2v**

Can you do this...

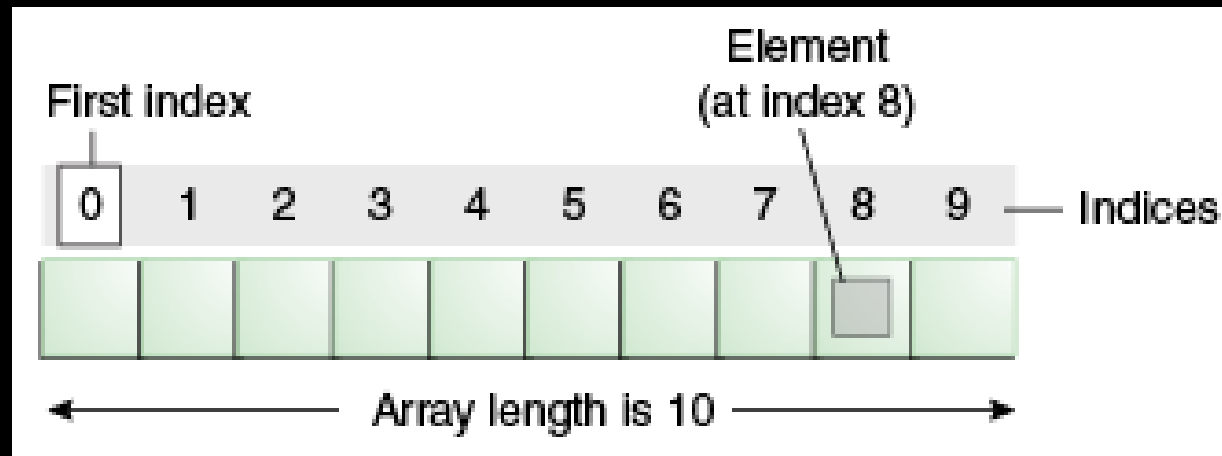- **Answer: https://editor.p5js.org/scotchANDsolder/sketches/N5PIXhd9v**

Arrays

Arrays are types of variables that can hold a list of other variables. In this case myArray is an Array of numbers.

let myArray = [4,45,3,6,7,2,7,10,12,3]

Counting of Arrays begins at 0 (zero)

Arrays Elements

let myArray = [4,45,3,6,7,2,7,10,12,3]

To access the elements in the array, call them by their index

myArray[0] -> 4 i.e. the 1st values in the array
myArray[3] -> 6 i.e. the 4th value in the array

myArray[7] = ?
myArray[10] = ?

Arrays Elements

let myArray = [4,45,3,6,7,2,7,10,12,3]

You can also change elements of the Array

myArray[3] = 10 -> After this myArray will be [4,45,3,*10*,7,2,7,10,12,3]

myArray[8] = 19 -> After this myArray will be [4,45,3,*10*,7,2,7,10,*19*,3]

Arrays + For Loops

xPos.length gives the size of the array

```
let xPos = [20,60,100]

function setup() {
        createCanvas(400, 400);
}

function draw() {
        background(120);
        let lengthOfxPos = xPos.length
        for(let i = 0; i < lengthOfxPos; i++){
                circle(xPos[i],50,30)
        }
}
```

This for loop counts through the list uses the xPos values to draw circles

Arrays + For Loops

Arrays can start off empty

```
let xPos = []

function setup() {
        createCanvas(400, 400);
        for(let i = 0; i < 10; i++){
                xPos[i] = random(0,200);
        }

}
```

This for loop creates an array of random numbers