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Coding Challenge 1 Algorithms (60 minutes per day)

### Question 1: Return first duplicate (COMPLETE/INCOMPLETE)

Create a function that accepts an array of integers and returns the first duplicate value.

        let duplicatearray = [2,1,3,5,4,1,4]

        func firstDuplicatedElement(in array: [Int]) -> Int? { //returns first duplicated integer in array

            let noOfObjects: Int = array.count - 1 // in natural numbers, subtract to work with computer. Index ranges from 0-5, not 1-6

            var initalValue = 0;

            var retrievedDuplicate = 0;

            while (initalValue < noOfObjects) { //inital value cannot exceed array range or crash will occur!

                for i in 1...noOfObjects {

                    if (array[initalValue] == array[i]) {  // scan from index integer (selected) to end for duplicates, shift up by one when duplicate not found

                        retrievedDuplicate = array[initalValue]

                    }

                }

                initalValue = initalValue + 1

            }

            return retrievedDuplicate;

        }

        print(firstDuplicatedElement(in: duplicatearray)!)

### Question 2: Is Palindrome? (COMPLETE/INCOMPLETE)

Create a function that checks if a string is a palindrome and returns true or false. A palindrome is a word that reads the same way even if you read it backwards.

let teststring = "abcdcba"; // from 0 to (string.count - 1) (it displays from 1 onward)

        func palindromedetector(in string: String)  {  // example is radar

            var reversedString: String = "";

            for i in 0...(string.count - 1) {

                reversedString.append(string[string.index(string.startIndex, offsetBy: (string.count - 1) - i)])

            }

            if (string == reversedString) {

                print("It is a Palindrome!");

            }

        }

        palindromedetector(in: teststring);

## Suggested Time: 3+ days

## Challenge 2: iOS (COMPLETE/INCOMPLETE)

Your second challenge is to develop a small app from scratch. Here are the requirements:

* It should show a list of images.
* Tapping on an image should navigate to a new screen that shows the selected picture

### Notes:

* If you're a bit rusty on your iOS skills, check out this [tutorial](https://www.raywenderlich.com/160521/storyboards-tutorial-ios-11-part-1).
* A good developer tries to write code that is easy to understand. The industry has a set of best practices that focus on writing easy to maintain code. Here's a set of guidelines on these best practices: [Swift Style Guide](https://github.com/raywenderlich/swift-style-guide).