

Please answer the following questions. Submit both questions and answers in a PDF file or a word file.

1. **What is an array with undefined values called?**

An array with undefined values is called a sparse array.

2. **Code a for loop that iterates and prints out the individual scores of this array: var scores = [4, 5, 6, 8, 2, 5, 9, 3]**

```
var scores = [4, 5, 6, 8, 2, 5, 9, 3]

for(var i = 0; i < scores.length; i++) {

    var output = "Score for index " + i + " is " + scores[i];

    console.log(output);

}
```

3. **Code a for loop that iterates and prints out the highest score of this array: var scores = [4, 5, 6, 8, 2, 5, 9, 3]**

```
var scores = [4, 5, 6, 8, 2, 5, 9, 3]

var highestScore = 0;

for(var i = 0; i < scores.length; i++) {

    if(scores[i] > highestScore) {

        highestScore = scores[i];

    }

}

console.log(highestScore);
```

4. **What is the index of the first item in an array?**

The index of the first item in an array is index 0.

5. What 2 main types of variables can be stored in an array?

The two main types of variables that can be stored in an array are string and numerical variables. However, other types can also be stored such as boolean variables and even other arrays (nested arrays).

6. What is the relationship between the length of the array and an index of the array.

The relationship between the length of an array and an index of an array is that arrays are 0 index based. Therefore, an array's length will start at index 0 so and the length of the array will always be one more than the last index. In other words length is the amount of values an array holds while index is a specific value's position inside the array.

7. An array is a(n) _____ data structure.

An array is a homogeneous data structure meaning it usually contains data of the same type. And although an array can hold a mix of different data types, it is safer to use values of the same type within an array.

8. What is the value of an item in an array if you don't specify one in the code?

If you do not specify the value of an item in an array, it will automatically be given the value of undefined. Just like when you only declare a variable and not define it (var variable; has an undefined value).

9. When we use a loop to iterate over an array, what is the property (of the array) that we use to tell the for loop to stop?

When we use a loop to iterate over an array, the property that is used to tell the for loop to stop is called the length property. The length property is an array member function that returns the length of an array.

10. What is the name of the type of operator that is used to increment a loop variable? (Hint: the answer is a single word that starts with a "P")

The name of the type of operator that is used to increment a loop variable is called the post-increment operator.