Quiz 3 Sample Problems

1.	Consider the following: ```\nlet nums = [7, 4.5, 2, 1, 2.5];\nlet result = nums[0] + nums[2] + nums[4];\n``` 1. What is the **VALUE** of the value stored in *result*? 2. What is the **DATA TYPE** of the value stored in *result*?
2.	Consider the following: ```\nlet result = 9 % 2;\n``` 1. What is the **VALUE** of the value stored in *result*? 2. What is the **DATA TYPE** of the value stored in *result*?
3.	Consider the following: ```\nlet result = 9 / 2;\n``` 1. What is the **VALUE** of the value stored in *result*? 2. What is the **DATA TYPE** of the value stored in *result*?
4.	Consider the following: ```\nlet a = 4 ** 2;\nlet result = a / 2;\n``` 1. What is the **VALUE** of the value stored in *result*? 2. What is the **DATA TYPE** of the value stored in *result*?
5.	Consider the following: ```\nlet myList = [[2, 3], [1, 8], [9, 6], [0, 7]];\nlet result = myList[2][0];\n``` 1. What is the **VALUE** of the value stored in *result*? 2. What is the **DATA TYPE** of the value stored in *result*?

6.	Consider the following code block:
	
	``
	let flowers = ['daisy', 'orchid', 'lily', 'tulip'];
	let flower = flowers.pop()
	flowers.push('rose')
	flowers.push(flower);
	console.log(flowers);
	``
	
	What prints to the screen?

7.	Consider the following:
	
	``
	function f1(a, b) {
	    return a * b;
	}
	
	function f2(a, b) {
	    return b - a;
	}
	
	let x = f1(2, 3);
	let y = f2(1, x);
	let z = f2(y, f1(4, 5));
	``
	
	What is the value stored in x?
	What is the value stored in y?
	What is the value stored in z?

8.	Using any kind of loop that you want, write a program that prints out all of the items in the "fruit" array to the JavaScript console:
	
	``
	let fruit = ['apple', 'orange', 'banana', 'grapefruit', 'lemon'];
	``

9. Consider the following:

```
let a = 50;
let b = 50;
let result = b < a;
```

1. What is the **VALUE** of the value stored in *result*?
2. What is the **DATA TYPE** of the value stored in *result*?

10. Consider the following:

```
let c = true;
let d = false;
let result = c || d;
```

1. What is the **VALUE** of the value stored in *result*?
2. What is the **DATA TYPE** of the value stored in *result*?

11. Consider the following:

```
let c = true;
let d = false;
let result = c && d;
```

1. What is the **VALUE** of the value stored in *result*?
2. What is the **DATA TYPE** of the value stored in *result*?

12. Consider the following:

```
let a = false;
let b = true;
let c = false;
let result = !a && (b || c);
```

1. What is the **VALUE** of the value stored in *result*?
2. What is the **DATA TYPE** of the value stored in *result*?

13.	Consider the following:
	
	``js
	const a = 10;
	const b = 15;
	const c = [4, 5, 6];
	const result = (b - a) >= c.length;
	``
	
	1. What is the **VALUE** of the value stored in *result*?
	2. What is the **DATA TYPE** of the value stored in *result*?

14.	Given the following code block, what prints to the console?
	
	``js
	let a = true;
	let b = true;
	let c = false;
	let result = null;
	
	if (!a) {
	    result = 'horse';
	} else if (a && c) {
	    result = 'donkey';
	} else if (b || c) {
	    result = 'mule';
	} else {
	    result = 'llama';
	}
	console.log(result);
	``

15.	Consider the following snippet of code....
	
	``js
	const colors = [
	    'red', 'orange', 'yellow', 'green',
	    'blue', 'purple', 'indigo', 'violet'
	];
	
	const numbers = [1, 3, 5];
	
	console.log(colors[5]);
	console.log(numbers[1]);
	console.log(colors[numbers[1]]);
	``

What will happen when this code is executed? If information prints to the screen, write what the output would be below.

16. Consider the following:

```
const colors = [
    'red', 'orange', 'yellow', 'green',
    'blue', 'purple', 'indigo', 'violet'
]

for (let i = 0; i < colors.length; i += 2) {
    console.log(i, colors[i]);
}
```

What will happen when this code is executed? If information prints to the screen, write what the output would be below.

17. Given the following code block, what prints to the console?

```
let course = {
    id: 250,
    title: 'Intro to Music Composition',
    department: 'Music',
    semesters_offered: ['sp2021', 'sp2022', 'sp2023']
};
console.log(course.id, course.semesters_offered[2]);
```

18. Given the following list of numbers...

```
const nums = [1, 5, 66, -23, 11, -55, 189, 23, -55, 99];
```

1. Print the first item in the list.
2. Print the last item in the list
3. Using any kind of loop you want:
    a. Write a program to find the largest number.
    b. Write a program to print out all of the numbers.
    c. Write a program to find the smallest number.
    d. Write a program to only print the positive numbers.

e. Write a program to only print numbers that are divisible by 5.