Name: Jaren Kitchen

Instructions:

1. Don't forget to **put your name on the quiz** (above).
2. Please write your answers in **clear handwriting**. If you write more than one answer to a problem, circle the one that you would like for me to grade.
3. Be aware of the time as you work on the quiz.
4. Please **show your work** so that I can give you partial credit. Some of these questions are prone to arithmetic mistakes, so the more you communicate your process, the better I am able to give you credit for what you do know.
5. Do your best and good luck!

GRADE: (Sarah will fill this out)

Problem	Score	Possible Points
Problem 1	15	16
Problem 2	3	3
Problem 3	2	4
Problem 4	6	6
Problem 5	12	12
Problem 6	12	12
Problem 7	15	15
Problem 8	16	16
Problem 9	5	6
Problem 10	10	10
Total	96	**100**

Great work!

Problem 1. (16 points)

For each of the following statements, please specify the value and the data type of result:

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

What is the **value** of **result**? true

What is the **data type** of **result**? boolean

(b)
```
const colors = ['red', 'yellow', 'brown', 'pink', 'green']
const num = 7 % 4;
let result = colors[num];
```

What is the **value** of **result**? 'pink'

What is the **data type** of **result**? string

(c)
```
let result = 16 / 2 ** 3 + 1;
```
8 16/8+1 = 9

What is the **value** of **result**? 9

What is the **data type** of **result**? NUM

16/8 + 1 = 2 + 1 = 3

(d)
```
let a = 'Walter';
let b = 'McDonald';
result = a + ' ' + b;
```

What is the **value** of **result**? 'Walter McDonald'

What is the **data type** of **result**? string

(e)
```
let myList = [
    { id: 1, name: 'Irna', hobbies: ['gardening', 'running'] },
    { id: 2, name: 'Monique', hobbies: ['reading', 'singing'] },
    { id: 3, name: 'Julius', hobbies: ['photography'] },
    { id: 4, name: 'Isiah', hobbies: ['golf', 'hiking'] },
    { id: 5, name: 'Neha', hobbies: ['singing', 'acting'] }
];

let result1 = myList[1];
let result2 = myList.length;
let result3 = myList[3].name;
let result4 = myList[0].hobbies;
```

What is the **value** of **result1**? {id: 2, name: 'Monique', hobbies: ['photography']}

What is the **data type** of **result1**? Object

What is the **value** of **result2**? 5

What is the **data type** of **result2**? NUM

What is the **value** of **result3**? Isiah

What is the **data type** of **result3**? string

What is the **value** of **result4**? ['singing', 'acting']

What is the **data type** of **result4**? Array

Problem 2. (3 points)

Consider the following:

```
let name = 'Walter';
let age = 88;
let result = `${name} is ${age} years old.`;
```

What is the **value** of **result**? Walter is 88 years old.

What is the **data type** of **result**? String

Problem 3. (4 points)

Consider the following:

```
let a = 250;
let b = 200;
let c = 250;
let result = (b > a) || (c >= a);
```

false true

What is the **value** of **result**? false answer: true

What is the **data type** of **result**? boolean

Problem 4. (6 points)

Consider the following snippet of code....

```
const names = [
      'Francisco', 'Ana', 'Batuhan', 'Keira', 'Maya',
      'Lucy', 'Charlie', 'Isha', 'Ling', 'Isiah',
];
for (let i = 2; i < names.length; i += 3) {
      console.log(names[i]);
}
```

Write what will be printed to the console after this code block executes:

Batuhan
Lucy
Ling

Problem 5. (12 points)

Consider the following snippet of code....

```
function func1(a, b) {
      return (a * b);
}

function func2(a, b) {
      return a - b;
}

let x = func1(2, 3);
let y = func2(10, 5);
let z = func1(func2(x, 2), y);
```

2*3=6
10-5=5
(6-2)*5 = 4*5 = 20

What is the **value** of x? 6

What is the **value** of y? 5

What is the **value** of z? 20

Problem 6. (12 points)

Consider the following program, designed to move a creature on the screen.

```
let x = 400;
let y = 300;

function moveCreature(keyCode, hasSuperpower) {
      if (keyCode === 'UpArrow' && hasSuperpower) {
          y -= 100;
      } else if (keyCode === 'UpArrow' ) {
          y -= 50;
      } else if (keyCode === 'DownArrow' && hasSuperpower) {
          y += 100;
      } else if (keyCode === 'DownArrow') {
          y += 50;
      } else if (keyCode === 'LeftArrow' && hasSuperpower) {
          x -= 100;
      } else if (keyCode === 'LeftArrow') {
          x -= 50;
      } else if (keyCode === 'RightArrow' && hasSuperpower) {
          x += 100;
      } else if (keyCode === 'RightArrow') {
          x += 50;
      }
}

moveCreature('UpArrow', false);    y -= 50;    300 - 50 = 250
moveCreature('LeftArrow', false);  x -= 50;    400 - 50 = 350
moveCreature('RightArrow', true);  x += 100;   350 + 100 = 450
moveCreature('DownArrow', true);   y += 100;   250 + 100 = 350
console.log(x, y);
```

After the above program runs, what prints to the screen (take your time and show your work)?

400, 250
350, 250
450, 250
450, 350

Problem 7. (15 points)

Consider the following snippet of code)...

```
let places = ['Miami', 'Asheville', 'Charlotte', 'Atlanta', 'Durham'];
let b = 5;
while (b < 20) {
      let i = b % 5;
     console.log(b, i, places[i]);
      b += 3;
}
```

Write what will be printed to the console after this code block executes:

5, 0, 'Miami'
8, 3, Atlanta
11, 1, Asheville
14, 4, Durham
17, 2, Charlotte

OPTIONAL: Fill out this table if it helps:

	b	i	places[i]	output
Before enters loop	5	N/A	N/A	N/A
Iteration 1				
Iteration 2				
...				

Problem 8. (16 points)

Consider the starter code shown below:

index.html

```
<html>
<head>
      <title>Problem 8</title>
      <script src="main.js" defer></script>
</head>
<body>
      <button>Bird</button>
      <button>Pink</button>
      <img id="my_image" src="fish.jpg" />
      <div class="container">My container</div>
</body>
</html>
```

main.js

```
function showBird() {

}

function makePink() {

}
```

(a) Bird Button (2 points)

Add an attribute to the HTML "Bird" button that attaches the **showBird()** function to the button's click event. Write the updated HTML code for the button below:

<button onclick="showBird()">Bird</button>

(b) Pink Button (2 points)

Add an attribute to the HTML "Pink" button that attaches the **makePink()** function to the button's click event. Write the updated HTML code for the button below:

```
<button onclick = "makePink()" > Pink </button>
```

(c) showBird() function (6 points)

Modify the function body of the **showBird()** function so that it targets the image tag and sets the image source to "bird.jpg." Write the updated showBird() JavaScript function below:

```
Function showBird() {
    document.querySelector("img").src = "bird.jpg";
}
```

(d) makePink() function (6 points)

Modify the function body of the **makePink()** function so that it targets the div tag and sets its background color to pink. Write the updated makePink() JavaScript function below:

```
Function makePink() {
    document.querySelector(".container").style = "backgroundColor:
        pink;";
}
```

Data for Problems 9 & 10

Problems 9-10 should be answered using the **bobMarleyTracks** variable:

```
const bobMarleyTracks = [
    {
        "name": "Could You Be Loved",
        "preview_url": "https://p.scdn.co/mp3-preview/8fd5",
        "album": {
            "name": "Uprising",
            "image_url": "https://i.scdn.co/image/ab67"
        }
    },
    {
        "name": "Jamming",
        "preview_url": "https://p.scdn.co/mp3-preview/4dbc",
        "album": {
            "name": "Exodus",
            "image_url": "https://i.scdn.co/image/ab67"
        }
    },
    {
        "name": "Three Little Birds",
        "preview_url": "https://p.scdn.co/mp3-preview/30af",
        "album": {
            "name": "Exodus",
            "image_url": "https://i.scdn.co/image/ab67"
        }
    },
    {
        "name": "Buffalo Soldier",
        "preview_url": "https://p.scdn.co/mp3-preview/1a61",
        "album": {
            "name": "Confrontation",
            "image_url": "https://i.scdn.co/image/ab67"
        }
    },
    {
        "name": "No Woman No Cry",
        "preview_url": "https://p.scdn.co/mp3-preview/0cb7",
        "album": {
            "name": "Natty Dread",
            "image_url": "https://i.scdn.co/image/ab67"
        }
    }
];
```

Problem 9 (6 points)

(a) What is the **data type** of **bobMarleyTracks**? Array

(b) Using the **bobMarleyTracks** variable, how would you output the **name** of the **second track** to the console? Write the code below:

~~console.log(bobMarleyTracks[1]. name);~~

console.log(bobMarleyTracks[1].name);

(c) Using the **bobMarleyTracks** variable, how would you output the **album name** of the **fourth track**? Write the code below:

console.log(bobMarleyTracks[3].name);

console.log(bobMarleyTracks[3].album.name);

Problem 10 (10 points)

Write a loop (either a for loop or a while loop) that prints all of the track names that are stored within the **bobMarleyTracks** variable to the console.

[redacted]

[redacted]

```
For(let i=0; i< bobMarleyTracks.length; i++){
    console.log(bobMarleyTracks[i].name);
```