Basic Technical Assessment for Developers

Consider the two JavaScript functions below.

```
function foo1()
{
  return {
      bar: "hello"
  };
}

function foo2()
{
  return
  {
      bar: "hello"
  };
}
```

Will they both return the same thing? Why or why not?

No,
The function foo2 does not return anything because the object bar is on a separate line, foo1 returns the object because it is directly beside the return statement.

Consider the following JavaScript code regarding Promises - assume there are no errors.

```
const currentTimer = new Date().getTime();
/**
 * Returns the time in seconds since the start of the program
 * @returns {Number} time in seconds
 */
function getTime () {
    // gets the time in seconds since the start of the script rounded to the nearest second
    return Math.round((new Date().getTime() - currentTimer) / 1000);
}
/**
 * gets a promise
 * @returns {Promise<String>} a promise that resolves to a string
 */
function promiseTest() {
    return new Promise(function (resolve, reject) {
        setTimeout(function () {
            resolve(`2. Ran After ${getTime()}s`);
        }, 1000);
    });
}
async function main() {
    setTimeout(() => {
        console.log(`1. Ran After ${getTime()}s`);
    }, 2000);
    let result = await promiseTest();
    console.log(result);
    setTimeout(() => {
        console.log(`3. Ran After ${getTime()}s`);
    }, 2000);
}
main();
```

What will the console log be approximately?

The console when main() gets run would be after 2 seconds to print lines 1 and 3, line 2 (the result variable) is awaiting a promise from the promiseTest() function that gets resolved after 1000ms that is then being logged to the console. The order of each of the logs would be 2, 1, 3, Each being 1000ms apart from each other because main waits for the result variable to be fulfilled.

Consider the following array:

```
const testList = [
 {
   name: "John",
   age: 20,
 },
 {
   name: "Jane",
   age: 30,
 },
];
Array.prototype.map = function (callback) {
 return this.reduce((acc, cur) => {
   acc.push(callback(cur));
   return acc;
 }, []);
};
function happyBirthday(person) {
 person.age++;
 return person;
}
const agedPeople = testList.map(happyBirthday);
console.log(agedPeople);
```

Implement the JavaScript array.prototype.map using reduce

Consider the following HTML & JavaScript blocks

```
<html>
    <head></head>
    <body>
        <div id="div-1">
            <select class="class-1">
            </select>
            <button type="button" class="btn">Add Option</button>
        </div>
        <div id="div-2">
            <select class="class-1">
            </select>
            <button type="button" class="btn">Add Option 2</button>
        </div>
    </body>
</html>
```

```
  const main = () => {
    const select = document.querySelector("#div-1 select.class-1");
    const addButton = document.querySelector("#div-1 button.btn");
    const options = [
    { name: "one", value: 1 },
    { name: "two", value: 2 },
    { name: "three", value: 3 },
    ];
    if (!select || !addButton) {
      console.error(“Query selectors returned undefined, returning early“)
      return;
    }
    const addOptions = () => {
        // adds option to selected select element
      if (optionIndex >= options.length) {
        console.log("No more options to add");
        return;
      }
      const option = options[optionIndex];
      const optionElement = document.createElement("option");
      optionElement.value = option.value;
      optionElement.text = option.name;
      select.appendChild(optionElement);
      optionIndex++;
    };
    let optionIndex = 0;
    addButton.addEventListener("click", addOptions);
  };
  main();
```

Write a queryselector that will return the first select in div1
Write a queryselector that will return the add button in div1
Create options and append them to the select
When clicked make the button add an option to the select

Consider the following ERD and write a MySQL query that will return all the unique book series authored by J.R.R Tolkien

SELECT series FROM books WHERE author=”J.R.R.Tolkien”