Unit 4 Critical Thinking Questions

1. **Identify the elements in this program and describe how they work. Then state the output of the program.**

```
1  var fred = 4;
2  if (fred === 3){
3    console.log("yes");
4  }
5  else {
6    console.log("no");
7  }
```

The elements in the program state that the variable is equal to 4. If it is 3, then the console displays yes, if it is anything else the console will display no.

2. **Identify the elements in this program and describe how they work. Then state the output of the program.**

```
1  var names = ["Abel", "Betty", "Cai"];
2  console.log(names[2]);
```

The elements in the program set the variable with the names Abel, Betty, and Cai. The second line makes it display the second name, which would be Betty.

3. **Identify the elements in this program and describe how they work. Then state the output of the program.**

```
1  for (var i = 1; i < 4; i++) {
2    console.log("Howdy!");
3  }
```

The elements in the program loops through the block of code 4 times. In this case, it would display the phrase "Howdy!" 4 times.

Output:
Howdy
Howdy
Howdy
Howdy

4. **Identify the elements in this program and describe how they work. Then state the output of the program.**

```
1    function triple(num) {
2        return num * num * num;
3    }
```

The elements in this program take a given number and triple it. For example, if I were to enter 2, it would return with 8 (2 * 2 * 2 = 8).

5. **When developing a website, you will want to choose a scripting language that best meets the needs of your clients and your development environment. Consider at least two different scripting languages and describe their characteristics, then explain which one you would prefer to use and why.**

Two examples of scripting languages include PHP and JavaScript. PHP is a server-side scripting language and JavaScript is a client-side scripting language. PHP and JavaScript together make dynamic websites. I would prefer to use JavaScript over PHP because JavaScript is a full-stack development language.