

Boolean Logic Exercises

Part I

Write down what the following statements will return. Try to figure this out before putting the commands in the chrome console.

1. `2 == "2";`
2. `2 === 2;`
3. `10 % 3;`
4. `10 % 3 === 1;`
5. `true && false;`
6. `false || true;`
7. `true || false;`

Part II

Answer the following questions about this code block:

```
let isLearning = true;
if(isLearning){
  console.log("Keep it up!");
} else {
  console.log("Pretty sure you are learning....");
}
```

1. What should the above code console.log?
2. Why do we not need to specify `if(isLearning === true)`? Why does `if(isLearning)` work on its own?

```
let firstvariable;
let secondvariable = "";
let thirdvariable = 1;
let secretMessage = "Shh!";

if(firstvariable){
  console.log("first");
} else if(firstvariable || secondvariable){
  console.log("second");
} else if(firstvariable || thirdvariable){
  console.log("third");
} else {
```

```
    console.log("fourth");  
}
```

1. What should the above code console.log? **Why?**
2. What is the value of `firstvariable` when it is initialized?
3. Is the value of `firstvariable` a "truthy" value? **Why?**
4. Is the value of `secondvariable` a "truthy" value? **Why?**
5. Is the value of `thirdvariable` a "truthy" value? **Why?**

Part III

1. Research `Math.random` [here](#) and write an if statement that console.log's "Over 0.5" if `Math.random` returns a number greater than 0.5. Otherwise console.log "Under 0.5".
2. What is a falsey value? List all the falsey values in JavaScript.