Server Developer - Assignment Javascript:

1. Explain event loop with an example ?

var functionOne = function () {

console.log(“I am number one!”);

}

var functionTwo = function () {

functionOne();

console.log(“I am number two!”)

}

1. Explain the issue of callback hell and how it can be avoided with an example?

In Javascript when someone nest functions within functions it can create callback hell. You generally want to have asynchronous flow.

var add = function (a,b) {

return a + b;

};

var multiply = function(a,b) {

return a\*b;

};

var calculate= function(num1, num2, callback) {

return callback (num1, num2);

};

console.log(calc, 2, 3, add);

3. What is module.exports ?

It’s an object created by the module system. Generally used with require to include modules. You can export JSON objects or even functions.

1. Write an implementation of a function isInteger(x) that determines if x is an integer ? Use Mocha (or any testing framework) to test the function.

Not too comfortable with testing currently but I will revisit the topic after my coding bootcamp in a week.

var should = require('chai'). should(),

isInteger = function (x) {

if (typeof x !== 'number')

throw new Error ('x is not a number');

else

return 'x is an integer'

};

5. Explain closure with an example ?

A closure is a function having access to the parent scope, even after the parent scope has closed.

var subtract = (function () {

var counter = 3;

return function () {return counter -= 1;}

}) ();

subtract();

6. Explain difference beween == and === ?

== : equal to

=== : equal value & equal type

Computer science:

7. What is a semaphore ?

Technique for coordinating or synchronizing activities in which multiple processes compete for the same operating system resources.

8. What is a collision in a hash table ?

When two different keys happen to have the same hash code. It could also happen if two keys with different hash codes happen to map into the same bucket on the array in question.

9. When do you use heap sort ? Is there a scenario where you use insertion sort over heap sort ?

You should use a heap sort when you don’t need a stable sort and you are only worried about the worst case performance more than the average case performance. You should use an insertion sort when tjere are less items to sort through.

10. What happens when an user types https://www.google.com in the browser ?

The domain name gets translated into an IP address (through DNS servers), then uses the http get request to the web server. The server returns a visible website (which is generally an html file) and in our case <https://www.google.com>.

11. What in your opinion is a good code ?

Good code to me includes proper indentation, following scope, and avoiding repetitive code with proper implementation of functions.

12. What is garbage collection ?

It is a Java Virtual Machine that gets rids of objects that aren’t being used by the Java app anymore.