Javascript Scope Exercises

1. Determine what this Javascript code will print out (without running it):

x = 1;

var a = 5;

var b = 10;

var c = function(a, b, c) { //(8,9,10)

var x = 10;

document.write(x); //i (x=10)

document.write(a); //ii (a=8)

var f = function(a, b, c) { //(8,9,10)

b = a; //b=8

document.write(b); //iii (b=8)

b = c; // b=10

var x = 5;

}

f(a,b,c); //f(8,9,10)

document.write(b); //iv (b=9)

}

c(8,9,10);

document.write(b); //v (b=10)

document.write(x); //vi (x=1)

}

**Ans: c(8,9,10); ->**

**10 //i**

**8 //ii**

**8 //iii**

**9 //iv**

**document.write(b); -> 10**

**document.write(x); -> 1**

1. What is the difference between a method and function?

**Functions and methods are the same in JavaScript, but a method is a function, which is a property of an object. A function can be called directly by its name but methods are called by its object name and its method name using dot notation or square bracket notation.**

1. What does 'this' refer to when used in a Java method?

**‘this’ refers to the current object in a method or in a constructor.**

1. What does 'this' refer to when used in a JavaScript method?

**It** has different values depending on where it is used:

**IN METHOD:** It refers to owner object

**ALONE:** It refers to global object

**IN A FUCNTION:** It refers to global object

**IN AN EVENT:** It refers to the element that recieved the event.

1. What does 'this' refer to when used in a JavaScript constructor function?

**‘this’ keyword refers to the instance of the constructor**

1. Assume object x is the prototype for object y in Javascript. Object x has a method f( ) containing keyword 'this'. When f is called by x.f( ), what does 'this' refer to?

**This - refers to x**

1. What is a free variable in JavaScript?

**Free variable referred to a function that neither it's parameters nor local variable.**

**There are lexical scope where a closure is created and free variable is used in JavaScript.**

1. Create an object that has properties with name = "fred" and major="music" and a property that is a function that takes 2 numbers and returns the smallest of the two, or the square of the two if they are equal.

**let obj = {**

**name: "fred",**

**major: "music",**

**smallestOfTwo: function(a,b){**

**if(a>b){**

**return b;**

**}**

**else if(a==b){**

**return a\*a;**

**}**

**else{**

**return a;**

**}**

**}**

**};**

1. Write Javascript code for creating three Employee objects using the "new" keyword and a constructor function.  
   Employee objects have the following fields: name, salary, position.

**function Employee(name, salary, position) {**

**this.name = name;**

**this.salary = salary;**

**this.position = position;**

**}**

**var emp1 = new Employee("Jhon", 9000, "Manager");**

**var emp2 = new Employee("Ronaldo", 8000, "Supervisor");**

**var emp3 = new Employee("Muller", 5000, "Software Engineer");**

1. Write a Javascript function that takes any number of input arguments and returns the product of the arguments.

**function productOfArguments() {**

**let i;**

**let productResult = 1;**

**for (i = 0; i < arguments.length; ++i) {**

**productResult \*= arguments[i];**

**}**

**return productResult;**

**};**

1. Write an arrow function that returns the maximum of its three input arguments.

**var maxOfThree = (a,b,c) =>{**

**let max = Math.max(a,b);**

**return Math.max(c,max);**

**};**