**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) {

var x = 10;

document.write(x);

document.write(a);

var f = function(a, b, c) {

b = a;

document.write(b);

b = c;

var x = 5;

}

f(a,b,c);

document.write(b);

}

c(8,9,10);

document.write(b);

document.write(x);

Output:

10

8

8

9

10

1

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

* A method is a property of an object whose value is a function.
* A function is a function there is no object associate with it.

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

* Refer to the current object.

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

* In global context, it refer to the global object (window).
* In function context, if function belong to object then it refer to object.

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

* This inside the constructor function points to the newly created object

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?

Refer to object x

1. What is a free variable in JavaScript?

A variable referred to by a function that is not one of its parameters or local variables.

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.

var x = {  
 name: 'fred',  
 major: 'music',  
 myFunc: function(a, b) {  
 if (a > b) {  
 return b;  
 } else if (a < b) {  
 return a;  
 } else {  
 return a \* a \* b \* b;  
 }  
 }  
};

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 e1 = new Employee(“Quy”, 1000000000, “Director”);  
var e2 = new Employee(“NQG”, 300000000, “Manager”);  
var e3 = new Employee(“Wick”, 70000000, “Engineer”);

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

function productOfArguments(...args){  
 var result = [];  
 for (item in args) {  
 result.push(args[item]);  
 }  
 return result;  
}

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

var a = (a, b, c) => {  
 if (a > b) {  
 return (a > c) ? a : c;  
 } else {  
 return (b > c) ? b : c;  
 }  
};