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); //output is 10

document.write(a); //output is 8

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

b = a;

document.write(b); //output is 8

b = c;

var x = 5;

}

f(a,b,c);

document.write(b); //output is 9

}

c(8,9,10);

document.write(b); //output is 10

document.write(x); //output is 1

}

This above Javascript code will print out

10

8

8

9

10

1

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

A function is a block of code written to perform some specific set of tasks. We can define a function using the function keyword, followed by Name and optional parameters. Body of the function is enclosed in Curly braces.

A JavaScript method is a property of an object that contains a function definition. Methods are functions stored as object properties.

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

‘this’ refers to the current object in a method or constructor when used in a Java method.

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

‘this’ refers to the object it belongs to when used in a Javascript method.

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

In a Javascript constructor function, ‘this’ does not have a value. It is a substitute for the new object. The value of ‘this’ will become the new object when a new object is created.

6. 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’ will refer to object x.

7. What is a free variable in JavaScript?

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

8. 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.

const obj = {

name: "fred",

major: "music",

getResult: function(x, y) {

if(x==y)

return (Math.sqrt(x+y));

else

return (x<y)?x:y;

}

};

9. 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 employee1 = new Employee("Win", 6000, "Junior Software Engineer");

var employee2 = new Employee("Ei", 8000, "Senior Software Engineer");

var employee3 = new Employee("Win", 10000, "Team Lead");

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

function getProduct(x, y,...more) {

var result = x \* y;

if(more.length > 0){

for (let i=0;i<more.length; i++) {

result \*= more[i];

}

}

return result;

}

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

var findMax = (x,y,z) => { return Math.max(x,y,z) };