Javascript Scope Exercises

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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);

}

**Ans:**

document.write(b); // 10

document.write(x); //10

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

**Ans:**

JavaScript Method: *is a property of an object that contains a function definition. Methods are functions stored as object property.*

JavaScript functions: *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.*

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

**Ans:**

*The this keyword refers to the current object in a method or constructor. The most common use of this keyword is to eliminate the confusion between class attributes and parameters with the same name( because a class attribute is shadowed by a method or constructor parameter).*

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

**Ans:**

*In****JavaScript****, the property of an object can be a****method****or a simple value. When an object's****method****is invoked, then this****refers****to the object which contains the****method****being invoked. ... So the value of this depends on how a****method****is being invoked.*

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

**Ans:**

*In****JavaScript****, the thing called this is the object that "owns" the code. The value of this , when used in an object, is the object itself. In a constructor function this does not have a value. It is a substitute for the new object.*

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?

**Ans:**

*this in the above example refers to the function f().*

7. What is a free variable in JavaScript?

**Ans:**

***Free variables****are simply the variables that are neither locally declared nor passed as parameter.*

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.

**Ans:**

*var newObj = {*

*name: "fred",*

*major: "music",*

*smallestOrSquare: function(numOne, numTwo) {*

*if (numOne < numTwo) {*

*return this.numOne;*

*} else if (numOne > numTwo) {*

*return this.numTwo;*

*} else {*

*return Math.sqrt(this.numOne \* this.numOne + this.numTwo \* this.numTwo)*

*}*

*}*

*}*

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.

**Ans:**

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

*this.name = name;*

*this.salary = salary;*

*this.position = position;*

*}*

*const personOne = new Person('testNameOne', 'testSalaryOne', ‘testPositionOne);*

*const personTwo = new Person('testNameTwo', 'testSalaryTwo', ‘testPositionTwo);*

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

arguments.

**Ans:**

*function add(){*

*console.log(arguments);*

*var sum = 0;*

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

*sum += arguments[i];*

*}*

*return sum;*

*}*

*console.log(add(5, 7, 3): //15*

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

**Ans:**

***constLargestOfThree****(arr) =>****arr.map(e****l =>****M****ath****.max(…el)).***

*// you can even do a combination*

***function******largestOfFour****(arr)* ***{***

***return arr.map(****el =>****return Math.max(…el))***

***}***