**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); }

**Answer:** Its output is 10 8 8 9 10 1

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

**Answer**: Functions and Methods both are functions in JavaScript. A Method is just a special type of function that belongs to an object.

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

**Answer**: In java, objects’ methods run “inside” that object, and inside an object’s method, the object refers to itself as **this**.

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

**Answer**: It refers the same thing as java. You can see it’s answer in qn. 3.

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

**Answer**: The keyword 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?

**Answer**: Here, this refers to the object x itself.

1. What is a free variable in JavaScript?

**Answer**: 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.

**Answer**: var obj = {

name: ”fred”,

major: “music”,

a:2, b:5,

nums:function(){

return Math.sqrt(this.a \*this.x + this.y\*this.y)

}

};

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.

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

this.name = ”Ram”;

this.salary= 6000;

this. Position = ”Manager” ;

}

var employee1 = new Employee(“Shyam”, 10000, “Director”);

var emp2 = new Employee(“Regish”, 150000, “Dean”);

var emp3 = new Employee(“Sita”, 12000, “Chair Women”);

1. Write a Javascript function that takes any number of input arguments and returns the product of the arguments.
2. function sum(x,y,...more){
3. var total =x\*y;
4. if(more.length>0){
5. for(var i = 0; i<more.length; i++){
6. total \*= more[i];
7. }
9. }
10. console.log(total);
11. }
12. sum(5,5); //25
13. sum(5,5,4);//100

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