

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); // output : 10
              8
              8
              9

document.write(b); // output:10
document.write(x); // output:1
}
```

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

A method is related to an object and its fields can change according to the value set for that object. Method can be overridden in the child class as seen in the concept of inheritance

A function has the property that every time this function is called with the same parameter it should return the same output. function

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

"this" in a java method refers to the fields of the current object as well as the private instance fields defined in that class.

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

"this" in JavaScript method refers to the free variables that are defined within a function.

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

"this" in JavaScript in the constructor function refers to the newly created 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?

"this" refers to the current object's property, which is x in this case.

7. What is a free variable in JavaScript?

Free variable is 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.

```
Var person= function(a,b) {  
  Var name="Fred";  
  Var major="music";  
  Compute: function(a,b){  
    if(a>b){ return a;}  
    else if (a<b){ return b;}  
    else if(a===b){ return (a+b)^2;}  
  }  
}
```

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 manager= new Employee("Prem Malhotra", "7k", " Project Manager";  
var admin= new Employee("Jennifer Winget", "4k", "Chief- Administrator";  
var CEO= new Employee("Kashish Mahadew", "1.7M", "Chief Executive Officer";
```

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

```
function product(a,b ,...more){  
  var result=a*b;  
  if(more.length>0){  
    for( var i=0; i< more.length; i++){  
      result*= more[i];  
    }  
  }  
  Console.log(result);  
}
```

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

```
(a, b, c)=>{  
  Let max= -2,147,483,648;  
  If(a>b && a< c && a> max) { max= a;}  
  If(b>a && b< a && b> max) { max= b;}  
  If (c>max) { max= c;}  
  return max;  
}
```