

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); // Display: 10
  document.write(a); // Display: 8
  var f = function (a, b, c) {
    b = a; // b have a new value , b=a=8
    document.write(b); // Display: 8
    b = c; // b have a new value , b=c=10
    var x = 5;
  }
  f(a, b, c);
  document.write(b); // Display: 9
}
c(8, 9, 10);
document.write(b); // Display: 10
document.write(x); // Display: 1
}
```

Answer: 10 8 8 9 10 1

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

Answer:

- A JavaScript function is a block of code designed to perform a particular task.
- A JavaScript methods are actions that can be performed on objects.

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

Answer: " **this** " in java method refers to the current class method (implicitly).

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

Answer: " this " in JavaScript method refers to the **owner** of the method.

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

Answer: In a 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?

Answer: The will use the name of his Owner.

7- 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.

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.

Answer:

```
var myObject = (function (n, m) {  
  var name = n;  
  var major = m;  
  return {  
    getResult: function (num1, num2) {  
      if (num1 > num2) {  
        return num2;  
      } else if (num1 < num2) {  
        return num1;  
      }  
      return num1 * num2;  
    }  
  };  
}) ("fred", "music");
```

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?

Answer:

```
function Employee (na, sal, pos) {  
  this.name = na;  
  this.salary = sal;  
  this. position =posipostion;  
}
```

1. var jean = new Employee ("Octavius Jean Vilaire", 80000, "Manager");
2. var amazan = new Employee ("Amazan Louis ", 70000, "Programmer");
3. var louis= new Employee ("Jean Louis Fabienne", 10000, "Technique");
4. var daphney= new Employee ("Daphney Derismond", 10000, "Secretary");

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

Answer:

```
function product() {  
  var i;  
  var pro = 1;  
  for (i = 0; i < arguments.length; i++) {  
    pro *= arguments[i];  
  }  
  return pro;  
}
```

```
result = product(23,56,65,29,42,31);
```

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

Answer:

```
const maximumValue=( x,y,z)=>{  
  if(x>y && x>z) {  
    return x;  
  }  
  else if(y>x && y>z)  
  {  
    return y;  
  }  
  return z;  
};  
result = maximumValue(9,30,27);
```