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(3,8,9,5);
```

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

Answer:

```
const maximumOfThreeValue=( x,y,z)=>{
if(x>y && x>z) {
return x;
}
else if(y>x && y>z)
{
return y;
}
return z;
};
result = maximumOfThreeValue(3,90,5);
```