

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);
}
```

10,8,8,9,10,1

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

Function defined outside of object, method defined as an attribute of object, also method has access to attributes using "this" of parent object and can manipulate with attributes inside of object of this method.

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

"This" in a Java method refer to the reference of the class in which was called "this".

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

Is "this" was called in the method it refers to the current object.

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

Refer to the new created object of this constructor.

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?

In this case "this" refer to x object.

7. What is a free variable in JavaScript?

Free variable in JavaScript is variable of global scope that exist outside of function in which this variable was used.

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 obj = {name: "fred", major: "music",
```

```
getSmallest: function(a, b){
```

```
    If (a == b)
```

```
        return Math.sqrt(a);
```

```
    else{
```

```
        If (a > b)
```

```
            return a;
```

```
        else
```

```
            return b;
```

```
    }
```

```
}
```

```
}
```

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 empl1 = new employee("Jack", 10000, "director");
```

```
Var empl1 = new employee("Sam", 100400, "clerk");
```

```
Var empl1 = new employee("Nick", 56777, "accouter");
```

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

```
Function product(){
```

```
    Let pr = 1;
```

```
    For (let l = 0; l < arguments.length; l++)
```

```
        Pr = pr * arguments[l];
```

```
    }  
    Return pr;  
}
```

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

```
Var func = function(a, b, c){  
    function(){  
        Var a = a;  
        Var b = b;  
        Var c = c;  
    }  
    Return{  
        Max: function(){  
            Var max = this.a;  
            If (max < this.b)  
                Max = this.b;  
            If (max < this.c)  
                Max = this.c;  
            Return max;  
        }  
    }  
}();
```