

**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?**

- *A function is a piece of code that is called by name. It can be passed data to operate on (i.e. the parameters) and can optionally return data (the return value). All data that is passed to a function is explicitly passed. A method is a piece of code that is called by a name that is associated with an object*

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

- In *Java*, this refers to the current instance object on which the method is executed.

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

- In *JavaScript* this always refers to the "owner" of the function we're executing, or rather, to the object that a function is a method of.

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

- *In JavaScript, the thing called this is the object that "owns" the code. The value of this, when used in an object, is the object itself. In a constructor function this does not have a value. It is a substitute for the new 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?**

- *When this called it will Refer to x*

**7. What is a free variable in JavaScript?**

- *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 x= {  
  name: "fred",  
  major: "music",  
  f: function(a,b){  
    var smallest = b;  
    if(a==b){  
      return Math.pow(number,2);  
    }  
    else if(a<b){  
      smallest = a;  
      return smallest;  
    }  
    return smallest;  
  }  
}
```

**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 emp1 = new employee("AH",2000,"Sales");  
var emp1 = new employee("MO",10000,"Software Developer");
```

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

```
11. function multiply(){  
12.     let result=1 ;  
13.     for (let i = 0; i < arguments.length; i++) {  
14.         result *= arguments[i];  
15.     }  
16.     return result;  
17. }
```

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