

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); }
```

Answer: 10,8,8,9,10,1

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

A function is a block of instruction codes that written to perform a specific set of tasks. Functions are executed when another line of code invokes it. A method on the other hand associated with an object. It is a property of an object that contains a function definition. The objects in this can also be called with out the use of the parenthesis.

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

The **this** is a keyword in Java is used as a reference to the object of the current class, with in an instance method or a constructor. Using **this**, we can refer the members of a class such as constructors, variables and methods

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

This refers to the owner object in a method.

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

Inside of a constructor function, the JavaScript **"this"** keyword refers to the object that will be created when that constructor is instantiated.

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?

The value of this, when used in an object, is the object itself. In this case, this refers to the object x.

7. What is a free variable in JavaScript?

Free variable are those variables which are not locally defined inside the function or not passed as a parameter to the function but can be used by the function.

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 Profile = {  
  Name: "fred",  
  Major: "music",  
  Compare : function (a,b) {  
    If (a == b)  
      return Math.pow(ab,2)  
  
    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.

```
Const employee1 = new Employee("Yohannes", 50000 , "Manger")
Const employee2 = new Employee("Joe", 70000 , "Developer")
Const employee3 = new Employee("Mark", 80000 , "Accountant")
```

```
Function Employee (name,salary,postition)
{
    this.name = name;
    this.salry = salary;
    this.position = position;
}
```

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

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

    return totalProdct;
}

console.log(product(4,6,6,7,5)); //5040
console.log(product(4,7,5)); //140
```

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

```
var maxof three = (n1,n2,n3) => Math.max(n1, n2, n3);
```