

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?

Functions are independent block of codes kept in a script to perform specific task like on a trigger of the event or upon a call to it whereas method is the definition of function within the object & can be used like methods within an object in java.

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

This in java means a wrapping object and if we access properties using this keyword then it looks for member of a class rather than within the method where it resides.

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

The keyword this might refer to different object according to its scope like if we call this along with the property within class or method or function then it first refers within most immediate block then moves up the hierarchy all the way to window (global) object.

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

The keyword this when used inside constructor refers to 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?

The keyword “this” refers to x object.

7. What is a free variable in JavaScript?

A free variable is a variable used in a function but not a part of function's local variable OR one of its parameters.

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 object = {  
  name: "fred",  
  major: "music",  
  sum: function (a, b)  
    {  
      if (a === b)  
      { return Math.pow(a,2); }  
      return Math.min(x,y);  
    }  
}
```

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.

```
class Employee {  
  constructor(name, salary, position){  
    this.name = name; this.salary = salary; this.position = position;  
  }  
}
```

```
var employee1 = new Employee("Ram",100000,"Sr. Engineer");  
var employee2 = new Employee(John",120000,"Manager");  
var employee3 = new Employee("Shree",90000,"Jr. developer");
```

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

```
function product(...value) {  
  let a = 1;  
  for (let i = 0; i < value.length; i++) {  
    a *= value[i];  
  }  
  return a;  
}  
console.log(product(2, 3, 4)); //output is 24  
OR  
function product() {
```

```
    let a = 1;
    for (let i = 0; i < arguments.length; i++) {
        a *= arguments[i];
    }
    return a;
}
```

```
document.write(product(1,2,3,4))
```

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

```
var max = (a, b, c) => Math.max(a, b, c);
```