

1. What is **hoisting** in JavaScript? Can you think of any good practice to **stay away from hoisting**?
2. What is JavaScript **window** and **document** objects? How are they **related**?
3. What is difference between following two statements?  
`setTimeout(booyah, 2000);`  
`setTimeout(booyah(), 2000);`
4. What **problems associated with var are solved** by **let** in ES6.
5. How **const like let** and how is it different?
6. Which of the following statements are true?
  - a. Variable declared with **let should be assigned** immediately.
  - b. Object reference assigned to const can be **changed**.
  - c. Properties of an object assigned to const can be **changed**.
7. How can you make JavaScript interpreter run in **strict mode**? Why is function scope strict mode better option?
8. What will the alert after execution of following code?

```
var foo = 1;  
function bar() {  
    if (!foo) {  
        foo = 10;  
    }  
    alert (foo);  
    var foo = 5;  
}  
bar();
```

Note: Debugging JS?

**See next page.**

9. Write expected output of following code on paper

```
var x = 1;

function foo() {
  console.log(x);
  var y = 2;

  function foo1() {
    var y = 3;
    if (!x) {
      z = 4;
    }
    var x = 5;
    console.log(x + y + z);
  }

  if(y==2){
    var x = 3;
  }
  //console.log(z);
  foo1(); /* Comment this call and see the changes */
  console.log(x);
  console.log(y);
  console.log(z);
}

console.log(x);
//console.log(y);
//console.log(z);
foo(); /* Comment this call and see the changes */
console.log(x);
//console.log(y);
//console.log(z);
```

- a. Run and compare the results with your expected output, make sure you understand the outputs.
- b. Now uncomment commented parts **one at a time** and you will notice you won't see all the outputs, it will fail at the line you just uncommented, see the console for reason of failure and make sure you understand why.

- c. Next, comment the call to inner function **foo1()** and examine the result.

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10. Figure out the output of following lines of code:

```
var x = 1;
var y = 2;
var z = 3;

function foo() {
  function foo1() {
    console.log(`value of x: ${x}`);
    console.log(`value of y: ${y}`);
    console.log(`value of z: ${z}`);
  }

  var z = 4;
  foo1();
  var x = 3;

  console.log(`value of x: ${x}`);
  console.log(`value of y: ${y}`);
}
console.log(`value of y: ${y}`);
foo();
console.log(`value of x: ${x}`);
console.log(`value of z: ${z}`);
```