JAVASCRIPT QUIRKS QUIZ #1

#1

1) Is JavaScript case sensitive language?

- ○ Yes
- ○ No

YES

Javascript is case-sensitive

For example, variables **x** and **X** refer to two different variables in memory.

#2

```
(function() {
   return typeof arguments;
})();
```

2) What will be the output of the above code snippet?

- ○ "object"
- ○ "array"
- ○ "arguments"
- ○ "undefined"

TYPEOF ARGUMENTS === 'OBJECT'

- The **arguments** object is an array-like **object**
- You can access the individual argument values through an array index, and it has a length property like other arrays, but it doesn't have the standard Array methods like push and pop.

#3

```
(function(x){
   delete x;
   return x;
})(1);
```

3) What will be the output of the above code snippet?

- ○ 1
- ○ null
- ○ undefined
- ○ Error

ANSWER IS 1

```
(function(x){
  delete x;
  return x;
})(1);
```

- The delete operator removes properties from an object, and it only works if a property can be deleted.
- A special DontDelete attribute controls whether the property can be deleted. Function arguments are created with this DontDelete attribute, so attempting to delete x yields false (it does not throw an error). Global variables are also created with the DontDelete attribute.
- http://perfectionkills.com/understanding-delete/

POP QUIZ

```
var o = { x: 1 };
delete o.x;
o.x;
```

```
function x(){}
delete x;
typeof x;
```

```
var x = 1;
delete x;
x;
```

```
var z = function(){};
delete z;
typeof z;
```

POP QUIZ

```
var o = { x: 1 };
delete o.x;
o.x;
```

"undefined"

```
function x(){}
delete x;
typeof x;
```

```
var x = 1;
delete x;
x;
```

```
var z = function(){};
delete z;
typeof z;
```

POP QUIZ

```
var o = { x: 1 };
delete o.x;
o.x;
```

"undefined"

```
function x(){}
delete x;
typeof x;
```

"function"

```
var x = 1;
delete x;
x;
```

```
var z = function(){};
delete z;
typeof z;
```

POP QUIZ

```
var o = { x: 1 };
delete o.x;
o.x;
```

"undefined"

```
function x(){}
delete x;
typeof x;
```

"function"

```
var x = 1;
delete x;
x;
```

1

```
var z = function(){};
delete z;
typeof z;
```

POP QUIZ

```
var o = { x: 1 };
delete o.x;
o.x;
```

"undefined"

```
function x(){}
delete x;
typeof x;
```

"function"

```
var x = 1;
delete x;
x;
```

1

```
var z = function(){};
delete z;
typeof z;
```

"function"

#4

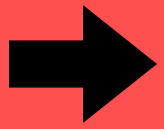
```
var y = 1, x = y = typeof x;
x;
```

4) What will be the output of the above code snippet?

- ○ 1
- ○ "number"
- ○ undefined
- ○ "undefined"

X === 'UNDEFINED'

```
var y = 1, x = y = typeof x;
x;
```



```
var y = 1;
y = typeof x;
var x = y;
x;
```

- When y = typeof x is executed, x has not been defined yet, so y becomes the string "undefined", which is then finally assigned to x when it is formally declared.

#5

```
var foo = {
   bar: function() { return this.baz; },
   baz: 1
};
(function() {
   return typeof arguments[0]();
})(foo.bar);
```

5) What will be the output of the above code snippet?

- ○ "undefined"
- ○ "object"
- ○ "number"
- ○ "function"

ANSWER IS 'UNDEFINED'

```
var foo = {
  bar: function() { return this.baz; },
  baz: 1
};
(function(){
  return typeof arguments[0]();
})(foo.bar);
```

- Because we're calling foo.bar with the name arguments[0], this in foo.bar is not bound to foo, but bound to whatever this refers to within the anonymous function! Here, that happens to be the global object.
- There is no property called baz in the global object, so typeof operator yields "undefined".

#6

```
var x = 1;
if (function() {}) {
   x += typeof f;
}
x;
```

6) What will be the output of the above code snippet?

- 1
- "1function"
- "1undefined"
- NaN

ANSWER IS '1UNDEFINED'

```
var x = 1;
if (function(){}) {
  x += typeof f;
}
x;
```

- Functions are always truthy values in JavaScript
- f is not defined here, so typeof f yields the string "undefined".
- Adding a string to a number results in a string

#7

```
var x = [typeof x, typeof y][1];
typeof typeof x
```

7) What will be the output of the above code snippet?

- "number"
- "string"
- "undefined"
- "object"

ANSWER IS 'STRING'

```
var x = [typeof x, typeof y][1];
typeof typeof x;
```

- typeof y === "undefined"
- typeof x === "string"
- typeof typeof x === "string"

POP QUIZ

- typeof typeof undefined
- typeof typeof null
- typeof typeof 647
- typeof typeof []
- typeof typeof true

#8

```
(function f() {
   function f() { return 1; }
   return f();
   function f() { return 2; }
})();
```

8) What will be the output of the above code snippet?

- ○ 1
- ○ 2
- ○ Error
- ○ undefined

ANSWER IS 2

```
(function f(){
  function f(){ return 1; }
  return f();
  function f(){ return 2; }
})();
```

- Function declarations and variable declarations are always moved (“hoisted”) invisibly to the top of their containing scope by the JavaScript interpreter.

#9

```
typeof null
```

9) What will be the output of the above code snippet?

- ○ "undefined"
- ○ "object"
- ○ undefined
- ○ null

TYPEOF NULL === 'OBJECT'

- ECMAScript specification defines null as the primitive value that represents the intentional absence of any object value (ECMA-262, 11.4.11)

Difference between `null` and `undefined`

```
1 typeof null        // object (bug in ECMAScript, should be null)
2 typeof undefined   // undefined
3 null === undefined // false
4 null  == undefined // true
```

#10

```
(function() {
   var a = b = 3;
})();
```

```
console.log("a defined? " + (typeof a !== 'undefined'));
console.log("b defined? " + (typeof b !== 'undefined'));
```

10) What will be the output of the above code snippet?

- ○ "a defined? true" / "b defined? true"
- ○ "a defined? false" / "b defined? true"
- ○ "a defined? true" / "b defined? false"
- ○ "a defined? false" "b defined? false"

A DEFINED? FALSE' / 'B DEFINED? TRUE

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The issue here is that most developers understand the statement var a = b = 3; to be shorthand for:

```
var b = 3;
var a = b;
```

But in fact, var a = b = 3; is actually shorthand for:

```
b = 3;
var a = b;
```

Therefore, b ends up being a global variable (since it is not preceded by the var keyword) and is still in scope even outside of the enclosing function.

The reason a is undefined is that a is a local variable to that self-executing anonymous function

```
(function(){
    var a = b = 3;
})();
```

If a variable is initialized (assigned a value) without first being declared with the var keyword, it is automatically added to the global context and it is thus a global variable.