

Quiz 4: Document Object Model

What does **DOM** stand for?

What does **HTML** stand for? In one word, what is its primary purpose in the DOM?

What does **CSS** stand for? In one word, what is its primary purpose in the DOM?

What does **D3** stand for? What is it?

JavaScript

In the following sections, next to each line of code, add a comment that describes what it does. Do not give circular answers (such as using a method name in its own definition).

As an example, suppose we define the following JavaScript object, we comment accordingly:

```
var a = [1,2,3,4,5,6,7]; // defines an array --> good answer  
var a = [1,2,3,4,5,6,7]; // sets a = 1:7 --> bad answer
```

Methods

When functions are assigned to the properties of an object, we call them methods. What do the following methods do? Again, I will answer the first one for you as an example:

```
a.push(8);    // append the number 8 to the end of the array  
a.length;  
a.pop();  
a.shift();  
a.unshift(0);
```

Return Values From An Array

What is the return value on each line?

```
a[1];
a[a.length-1];
a.slice(0, a.length-1);
a.slice(0);
```

JSON

Suppose we defined three JavaScript Objects:

```
var book = {
  topic: "javascript",
  useful: true,
  author: "Flanagan"
};

var family = {
  "jason" : {
    "name" : "Jason Lengstorf",
    "age" : "24",
    "gender" : "male"
  },
  "kyle" : {
    "name" : "Kyle Lengstorf",
    "age" : "21",
    "gender" : "male"
  }
};

var schedule = [{
  "class": "Data Visualization",
  "instructor" : "Elliot",
  "TA" : "Huei-yi",
  "location" : "313 Fayerweather",
  "time" : "MW 1:10pm-2:25pm",
  "awesome": true
},
{
  "class": "14th Century European History",
  "instructor" : "Edward I of England",
  "TA" : "William Wallace",
  "location" : "Scotland",
  "time" : "T/TH 1:10pm-2:25pm",
  "awesome": true
}
];
```

What are the return values?

```
book.topic  
book["useful"]  
book.author==="Flanagan";  
schedule[1].instructor;  
schedule[1].location;
```

How do you access Kyle's age?

How do you access Jason's name?

Now let's define two more JSON:

```
var points = [  
  {x:0, y:0},  
  {x:1, y:1}  
];  
  
var data = {  
  trial1: [[1,2], [3,4]],  
  trial2: [[2,3], [4,5]]  
};
```

What are the return values?

```
points[1]  
points[1].y  
data.trial2[1]
```

Functions

Write a javascript function that returns a value one larger than the value passed in. Show how to use it.

Evaluate:

```
[1, 2, 7, 10].filter(function(i) { return i > 5 })[1]
```

Relational Operators

Suppose we define two variables x and y:

```
var x=2, y=3; // variable assignments
```

What are the return values to the following statements?

```
x==y;  
x!=y;  
x<y;  
x <= y;  
false==(x>y);  
(x==2) && (y==3);  
(x>3) || (y<3);  
!(x==y);
```

CSS

Comment the following CSS selectors. Use CSS comment characters instead of js.

```
#ID  
.class  
A B  
div li {  
    color: "red"  
}  
p{color:red;}  
ul+p{color:red;}  
A>B{border: 10 solid black;}
```

Set a CSS style rule for all content paragraphs in the body of a DOM.

Write a D3 selector to apply your CSS style rule to all content paragraphs in the body of the DOM.

Color

Explain the difference between additive and subtractive colors.

Name the following colors:

```
# 00 00 00  
# ff 00 00  
# 00 ff 00  
# 00 00 ff  
# ff ff ff  
# 00 ff ff  
# ff 00 ff  
# ff ff 00
```

What is the range of each tuple in HEX?

Congratulations You Survived!

Questions?

Comments?

Suggestions?

Name:

UNI:

Date: