Introduction to Programming
Class 16, 27 February 2017

- **What is your astrological sign? What does it say about you?**

Goals

Goal 1: You will know how to add html elements using javascript.

Vocabulary

Document Object Model
DOM
Element
Append
Parent
Child

Code

```
document.createElement()
document.body.appendChild()
element.textContent
element.appendChild()
```

1. Mr. Collins on Numbers (Check HW)
2. For Loop Snippets (Computers Closed)
3. Go over H28
4. Lesson on the DOM
5. Tripod Results and Survey
6. Homework is H29

Goal 1: You will know how to add html elements using javascript.

basicStructure.html

```
<!doctype html>
<html>

<head>
    <title>My Title</title>
</head>

<body>
    <h1>This is a header</h1>

    <p>This is a paragraph</p>

    <script>
    // My javascript code goes here
    </script>
</body>

</html>
```

basicStructure.html

```
<!doctype html>          html
<html>

<head>          head
    <title>My Title</title>     title     "My Title"
</head>

<body>          body
    <h1>This is a header</h1>     h1

    <p>Hello</p>     p     "Hello"

    <script>
    // My javascript code goes here
    </script>
</body>

</html>
```

basicStructure.html

```html
<!doctype html>
<html>

<head>
    <title>My Title</title>
</head>

<body>
    <h1>This is a header</h1>

    <p>Hello</p>

    <script>
    // My javascript code goes here
    </script>
</body>

</html>
```
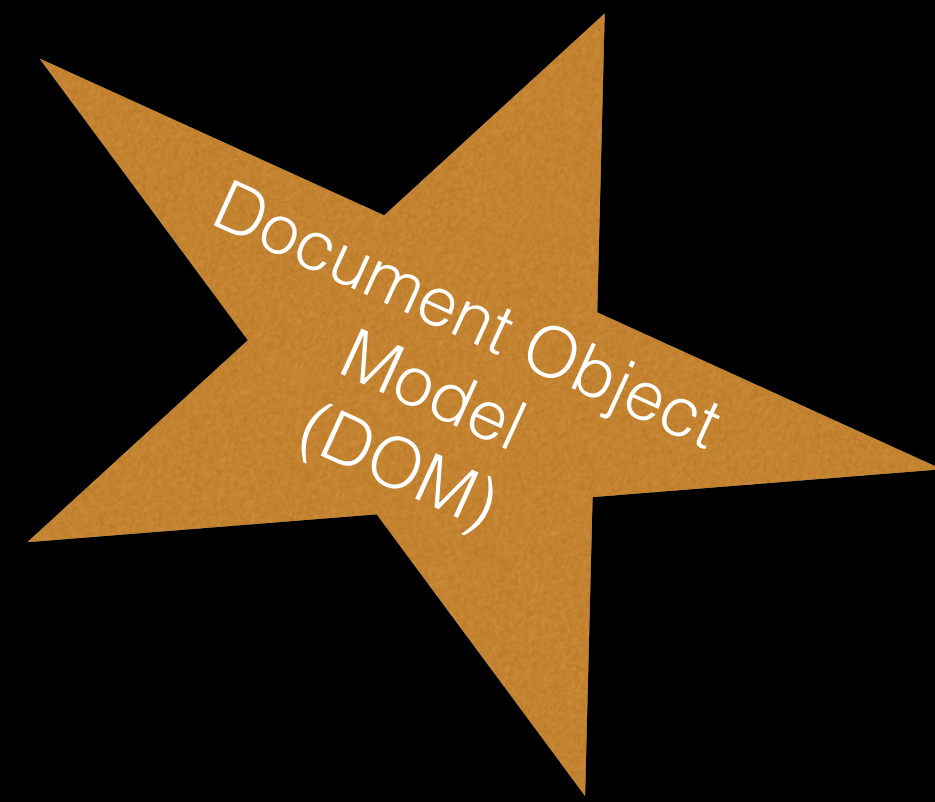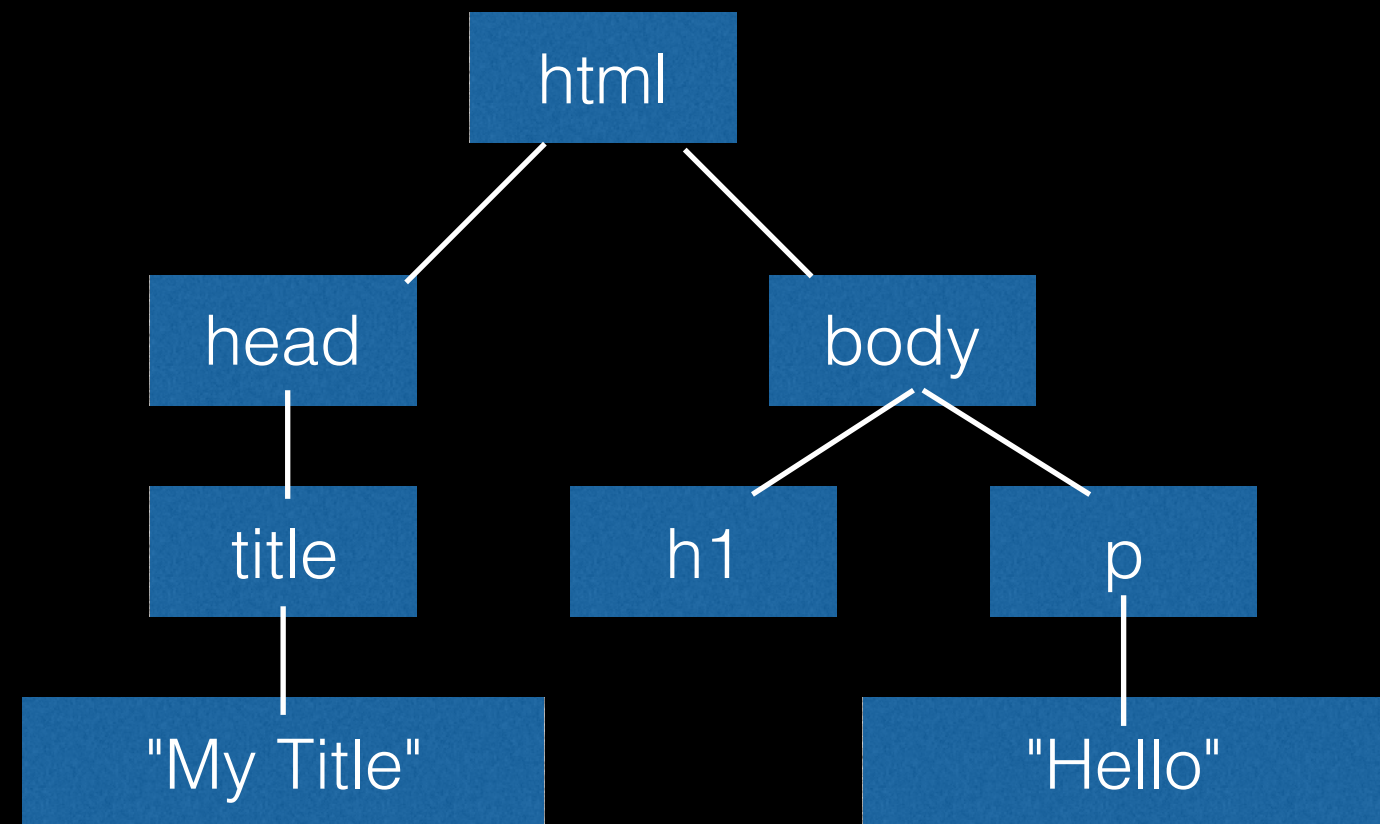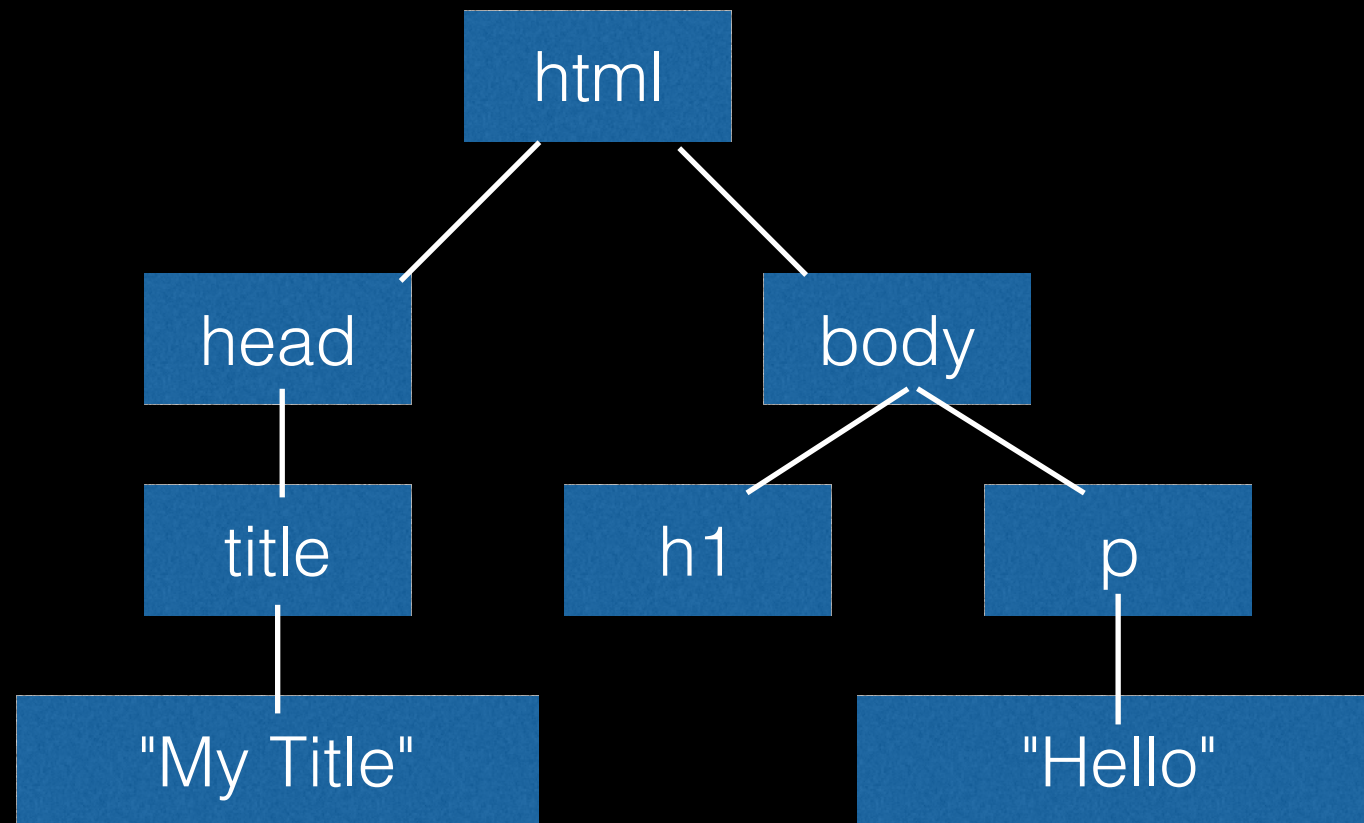
html

head · body

title · h1 · p

"My Title" · "Hello"

Document Object Model (DOM)

The DOM

```
html
├── head
│   └── title
│       └── "My Title"
└── body
    ├── h1
    └── p
        └── "Hello"
```

html is PARENT of **body**

body is CHILD of **html**

The DOM

html

head

body

title

h1

p

"My Title"
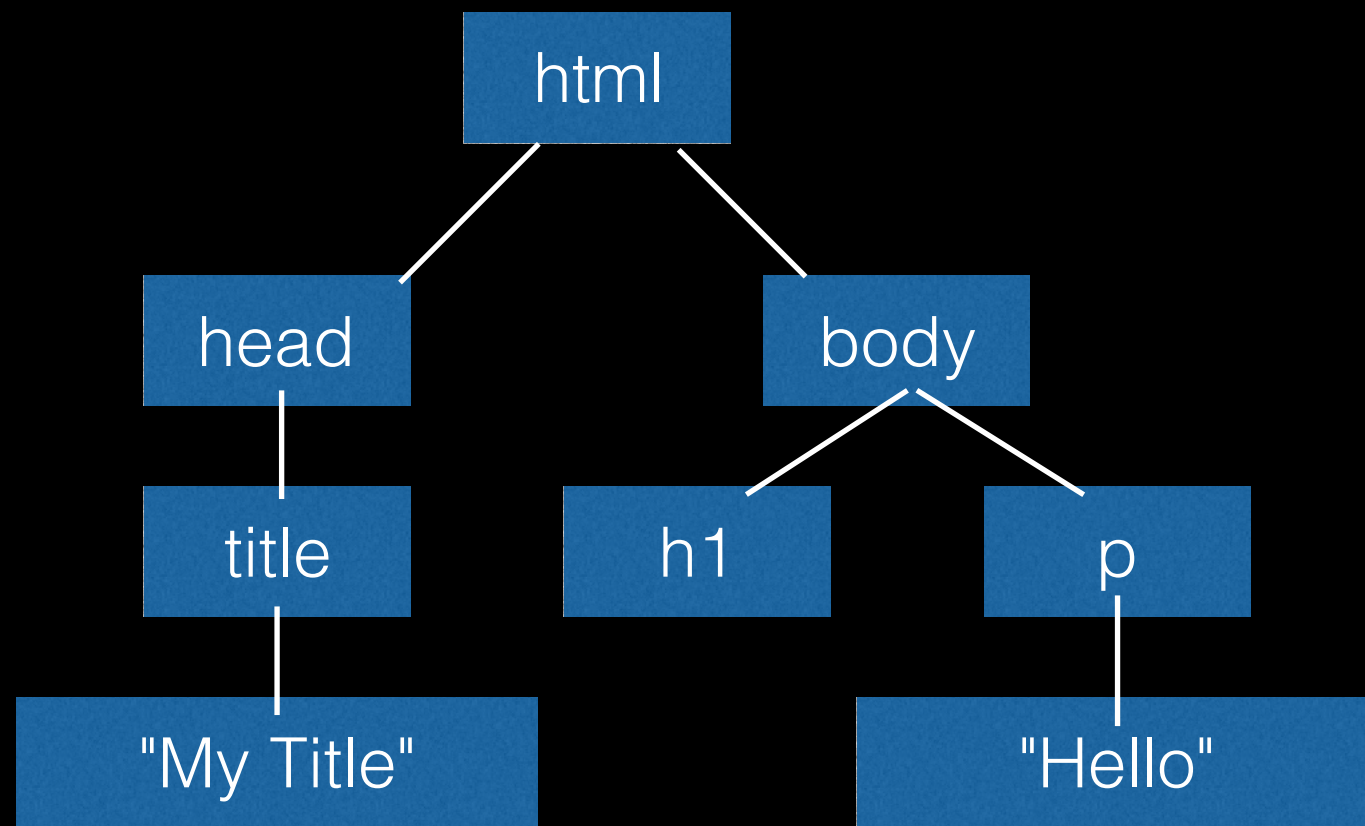
"Hello"

body is PARENT of **p**

p is CHILD of **body**

"Hello" is the textContent of **p**

also called innerHTML

The DOM

In order to add **p** with text to webpage (html), you need to **CREATE** and **APPEND** each element

CREATE

p is CHILD of **body**

```
var myP = document.createElement("p");
```

"Hello" is CHILD of **p**

```
myP.textContent = "Hello";
```

APPEND

also called innerHTML

```
document.body.appendChild(myP);
```

- **Demo**

```
The DOM
```

In order to add **p** with text to webpage (html), you need to **CREATE** and **APPEND** each element

CREATE

p is CHILD of **body**

```
var myP = document.createElement("p");
```

"Hello" is CHILD of **p**

```
myP.textContent = "Hello";
```

APPEND

also called innerHTML
```
document.body.appendChild(para);
```

The DOM

```
<html>
<head>
</head>
<body>
   <script>

     var para = document.createElement("p");

     para.textContent = "Hello";


     document.body.appendChild(para);
   </script>
</body>
</html>
```

Replaces **alert();**

- **Try adding the following to a blank web page:**
  - **<p>**
  - **<h1>**
  - ** with **

Practice!

- Modify AddingNumbers to display the final answer on the webpage.

Practice!

- Write a program that prompts the user for three numbers and then displays the largest number.

largeNumber.html

```html
<!doctype html>
<html>
<head>
    <title>Largest Number</title>
</head>
<body>
    <script src="largeNumber.js"></script>
</body>
</html>
```

largeNumber.js

```javascript
var maxNum = -100000000;

for (var i=0; i<3; i++) {
    var userNumberStr = prompt("Please enter a number.");
    userNumber = parseInt(userNumberStr);
    if (userNumber > maxNum) {
        maxNum = userNumber;
    }
}

var message = "The largest number is " + maxNum;

var para = document.createElement("p");
para.textContent = message;
document.body.appendChild(para);
```
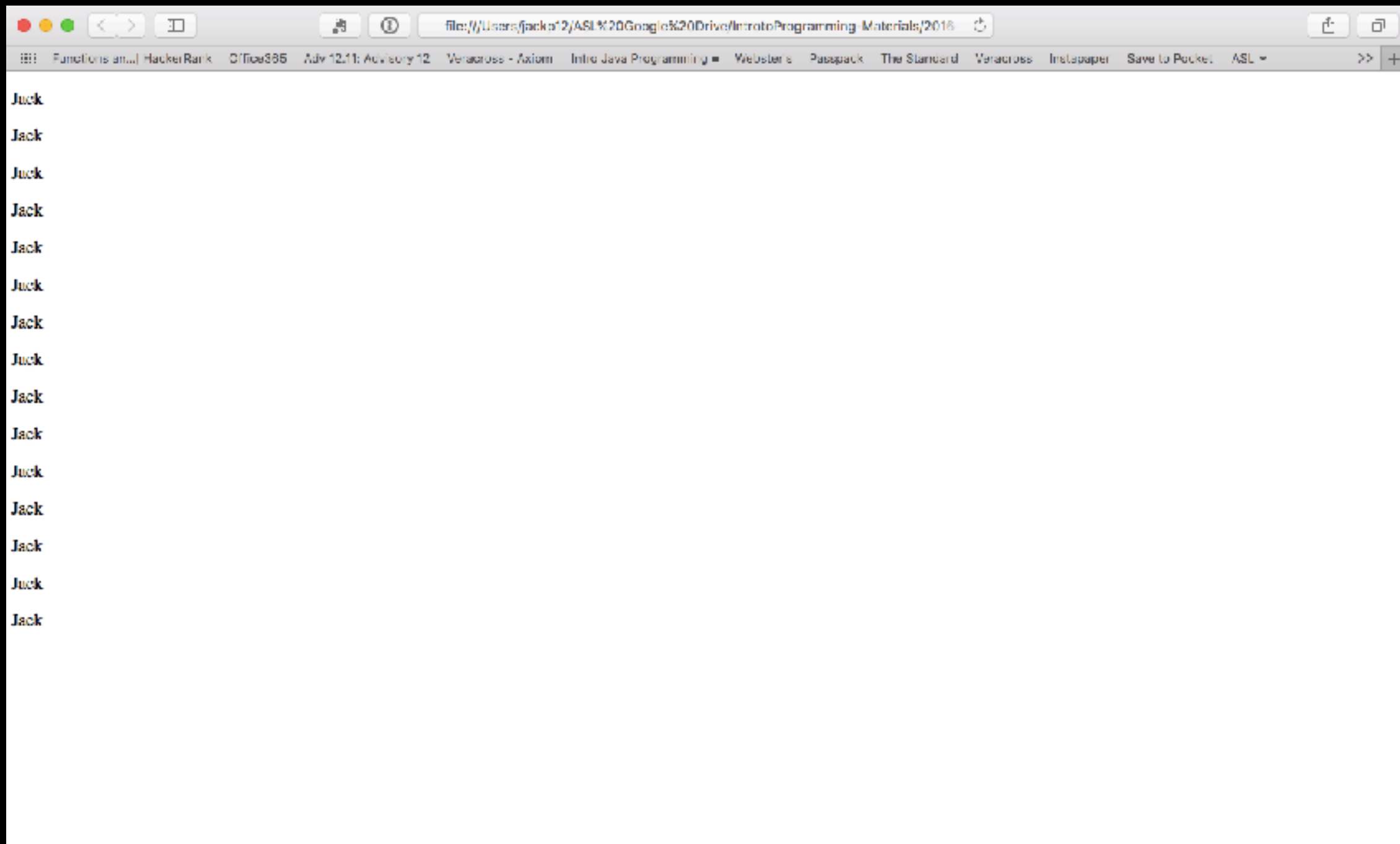
Practice!

- Write a program that prompts for a name and number of times to display.

vanity.html

```
<!doctype html>
<html>
<head>
    <title>MyName</title>
</head>
<body>
    <script src="vanity.js"></script>
</body>
</html>
```

vanity.js

```
var name = prompt("What's your name?");
var timesStr = prompt("How many times would you like to see it?");
times = parseInt(timesStr);

for (var i=0; i<times; i++) {
    var para = document.createElement("p");
    para.textContent = name;
    document.body.appendChild(para);
}
```

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