Introduction to Programming
Class 13, 8 February 2017

New Partners

Omar & Graham
Anisa & Kate
Tanner & Talia
Patrick & Jimmy
Nick & Sam
Ishaan & Liam & Filippo
Gabe & Yaniv
Natalie & Adam

- **Share name and grade**

- **Whom would you call for bail money?**

Goals

Goal 1: You will understand the basic format of an html web page.

Goal 2: You will know how to implement a function in javascript.

Vocabulary

HTML
Structured Text
Tags
modularization
function

Code

```
<html>
<head>
<body>
<title>
<h1>
<p>
<ul>
<li>
function name() {}
<script src=""></script>
<button>
```

What is HTML?

Hyper Text Markup Language
A way to STRUCTURE text.

STRUCTURE
with
<TAGS>

<title></title>
<p></p>
<script></script>
<img>

basicStructure.html

```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

```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>
```

TAGS

basicStructure.html

```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

```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>
```

This is a header

This is a paragraph

Make your HTML Page

- Sync Repo
- Open unit3 > unstructuredText.txt
- Turn it into a structured HTML document
- You will need to use

    http://www.w3schools.com/tags/

<doctype>
<html>
<body>
<head>
<title>
<p>
<h1>
<h2>

The American School in London

The American School in London is an international, private, independent K-12 school in St John's W
London, England for students aged between 4 and 18 years. It was established in 1951 by journalist S
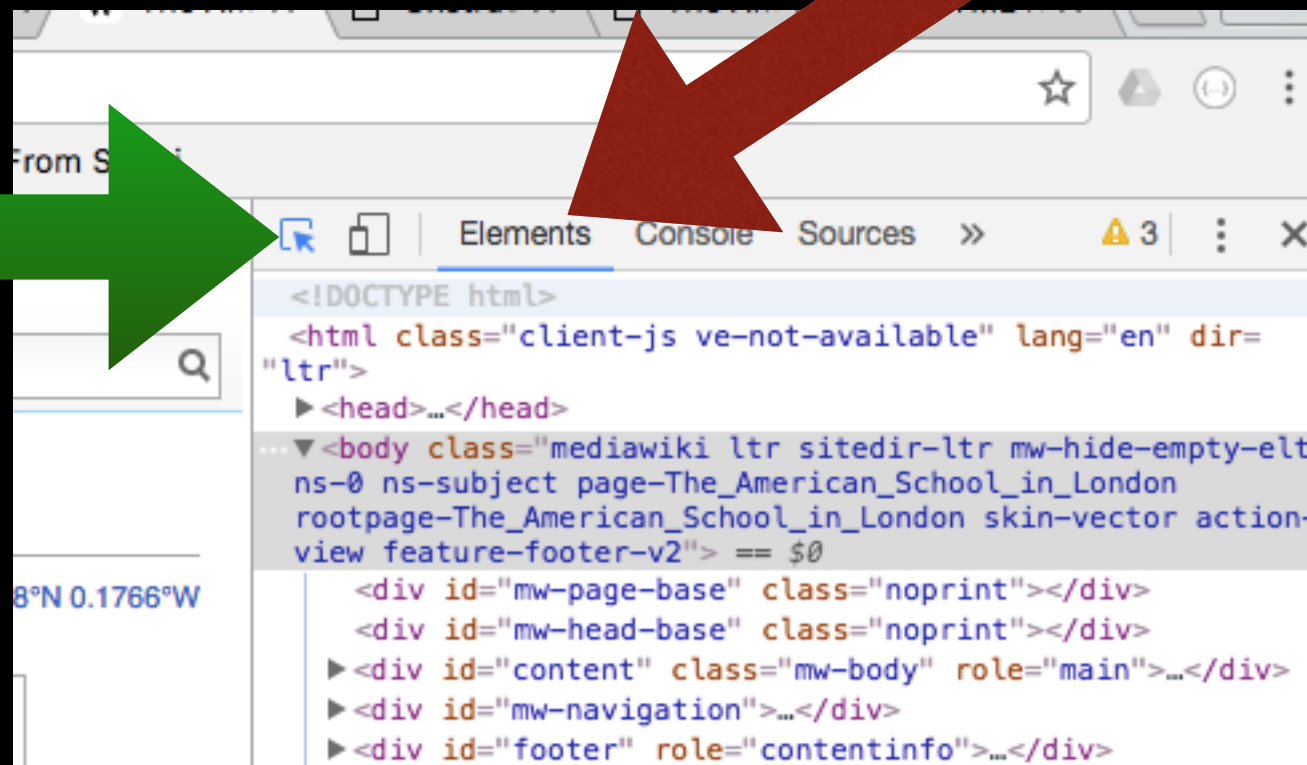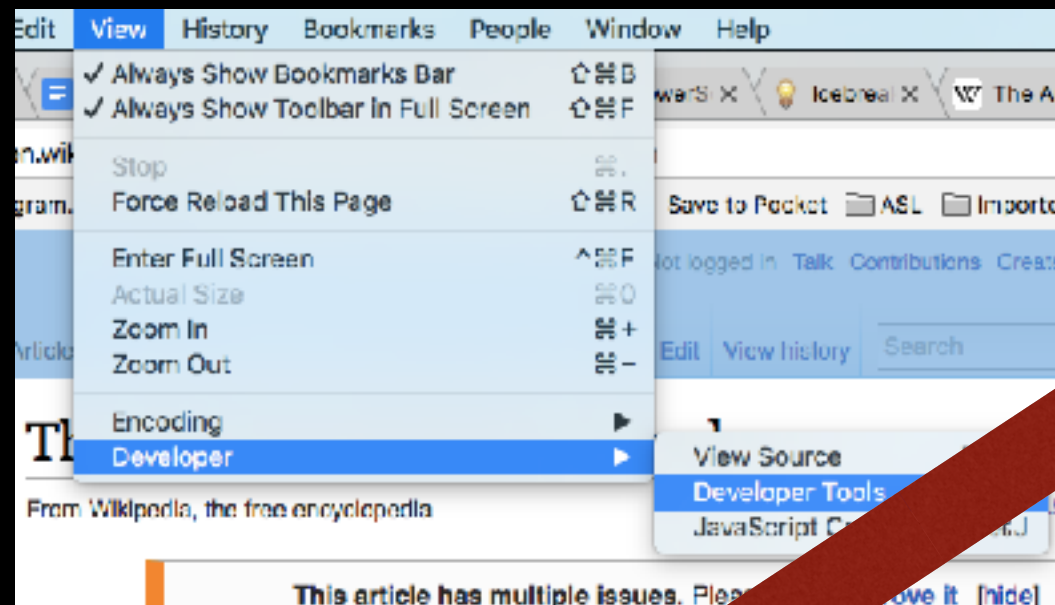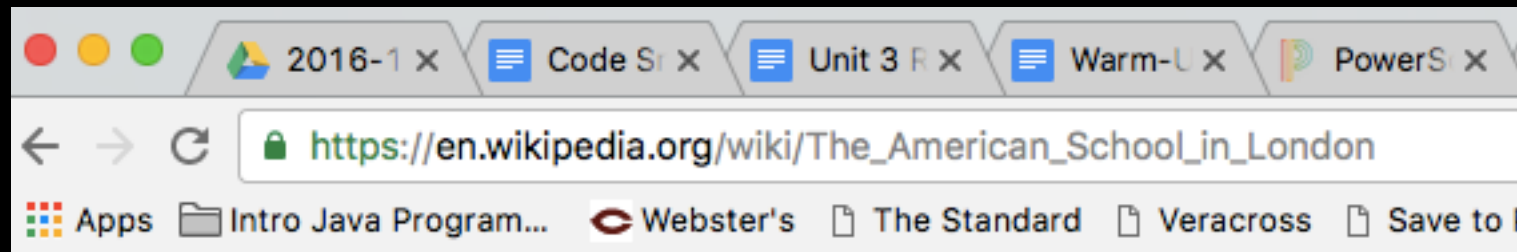Eckard.

The American School in London welcomed U.S. President Barack Obama for a visit during the 2008-
school year. Presidents Harry Truman, Ronald Reagan, and Bill Clinton have also met with ASL stud
and parents during visits to London.

ASL has been reviewed by the online Good Schools Guide International. A 2013 Ofsted (Office for
Standards in Education, a British Government department) inspection report found that ASL was outs
in all fields.

Heads of School

- Stephen Eckard, founder, head of school 1951-1971
- Jack Harrison, head of school 1971-1986
- William E. Harris, head of school 1986-1991
- William Greenham, interim head of school 1991-1992
- Judith L. Glickman, head of school 1992-1998
- William C. Mules, head of school 1998-2007
- Coreen R. Hester, head of school 2007-2017

Make an even better HTML Page

Modularization

```
<!doctype html>
<html>
<head>
        <title>Commission</title>
</head>

<body>
        <p id="sales">Total sales: 0</p>
        <p id="comm">Total commission: 0</p>
        <script>


        var salesTotal = 0;
        var commTotal = 0;

        for (var i=0; i<3; i++) {
                var saleString = prompt("What is the sale amount?");
                var commRateString = prompt("What is the commission rate?");
                sale = parseFloat(saleString);
                commRate = parseFloat(commRateString);

                var comm = sale * (commRate / 100.0);

                salesTotal = salesTotal + sale;
                commTotal = commTotal + comm;
        }

        var message1 = "Total sales: " + salesTotal.toFixed(2);
        var message2 = "Total commission: " + commTotal.toFixed(2);

        var salesElement = document.getElementById("sales");
        salesElement.innerHTML = message1;

        var commElement = document.getElementById("comm");
        commElement.innerHTML = message2;



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

What does this code do?

Modularization

commission.html

```html
<!doctype html>
<html>
<head>
        <title>Commission</title>
</head>

<body>
        <p id="sales">Total sales: 0</p>
        <p id="comm">Total commission: 0</p>
        <script>
        </script>
 </body>
 </html>
```

commission.js

```javascript
var salesTotal = 0;
var commTotal = 0;

for (var i=0; i<3; i++) {
        var saleString = prompt("What is the sale amount?");
        var commRateString = prompt("What is the commission rate?");
        sale = parseFloat(saleString);
        commRate = parseFloat(commRateString);

        var comm = sale * (commRate / 100.0);

        salesTotal = salesTotal + sale;
        commTotal = commTotal + comm;
}

var message1 = "Total sales: " + salesTotal.toFixed(2);
var message2 = "Total commission: " + commTotal.toFixed(2);

var salesElement = document.getElementById("sales");
salesElement.innerHTML = message1;

var commElement = document.getElementById("comm");
commElement.innerHTML = message2;
```

Modularization

commission.html

```html
<!doctype html>
<html>
<head>
        <title>Commission</title>
</head>

<body>
        <p id="sales">Total sales: 0</p>
        <p id="comm">Total commission: 0</p>
        <script src="commission.js">
        </script>
</body>
</html>
```

Must be in same folder

`<script src="commission.js"></script>`

commission.js

```javascript
var salesTotal = 0;
var commTotal = 0;

for (var i=0; i<3; i++) {
        var saleString = prompt("What is the sale amount?");
        var commRateString = prompt("What is the commission rate?");
        sale = parseFloat(saleString);
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        var comm = sale * (commRate / 100.0);

        salesTotal = salesTotal + sale;
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}

var message1 = "Total sales: " + salesTotal.toFixed(2);
var message2 = "Total commission: " + commTotal.toFixed(2);

var salesElement = document.getElementById("sales");
salesElement.innerHTML = message1;

var commElement = document.getElementById("comm");
commElement.innerHTML = message2;
```

DO

With your partner, **MODULARIZE** some of your programs
by creating separate .js files.

`<script src="commission.js"></script>`

DO

With your partner, write a program that:
1. **Asks for a name and then displays a welcome message to that name. The program should do this THREE times.**

greeting.html

greeting.js

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

```javascript
// Ask for name and greet

var name = prompt("What is your name?");
alert("Welcome, " + name);

name = prompt("What is your name?");
alert("Welcome, " + name);

name = prompt("What is your name?");
alert("Welcome, " + name);
```

greeting.js

```
// Ask for name and greet

var name = prompt("What is your name?");
alert("Welcome, " + name);


name = prompt("What is your name?");
alert("Welcome, " + name);


name = prompt("What is your name?");
alert("Welcome, " + name);
```

parentheses

function name

CALLING a function.

functions

```
alert("Hello");
Math.random();
prompt("Enter your name.");
```

How
do we add new

functions?

greeting.js

```javascript
// Ask for name and greet

var name = prompt("What is your name?");
alert("Welcome, " + name);

name = prompt("What is your name?");
alert("Welcome, " + name);

name = prompt("What is your name?");
alert("Welcome, " + name);
```

greeting.js

```
// Ask for name and greet                    // Ask for name and greet

var name = prompt("What is your name?"); greeting();
alert("Welcome, " + name);


name = prompt("What is your name?");        greeting();
alert("Welcome, " + name);


name = prompt("What is your name?");        greeting();
alert("Welcome, " + name);
```

`greeting.js`

keyword **function**

CALL a function

```
// Main progr
greeting();
greeting();
greeting();

// greeting will prompt              ome
function greeting() {
    var name = prompt("What is your name?");
    alert("Welcome, " + name);
}
```

function name

...theses

DEFINE
a function

code block

greeting.html

```html
<!doctype html>
<html>
<head>
    <title>Greetings</title>
</head>
<body>
    <button onclick="greeting()">Press Me!</button>
    <script src="greeting.js"></script>
</body>
</html>
```

greeting.js

```javascript
// Main program
greeting();
greeting();
greeting();

// greeting will prompt user and welcome
function greeting() {
    var name = prompt("What is your name?");
    alert("Welcome, " + name);
}
```

DO

With your partner, modify an old program and include the following:
1. **Separate html and js files**
2. **Define and call a function**
3. **Create an html button that calls the function**

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Goal 1: You will understand the basic format of an html web page.

Goal 2: You will know how to implement a function in javascript.

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