

DOM MANIPULATION WITH JAVASCRIPT AND JQUERY

Bernard Suen
Center for Entrepreneurship
Chinese University of Hong Kong



VERB

JS

JavaScript = act on a HTML tag, CSS property or respond to an event triggered by user action

Decomposition

Pattern

Abstraction

Algorithm

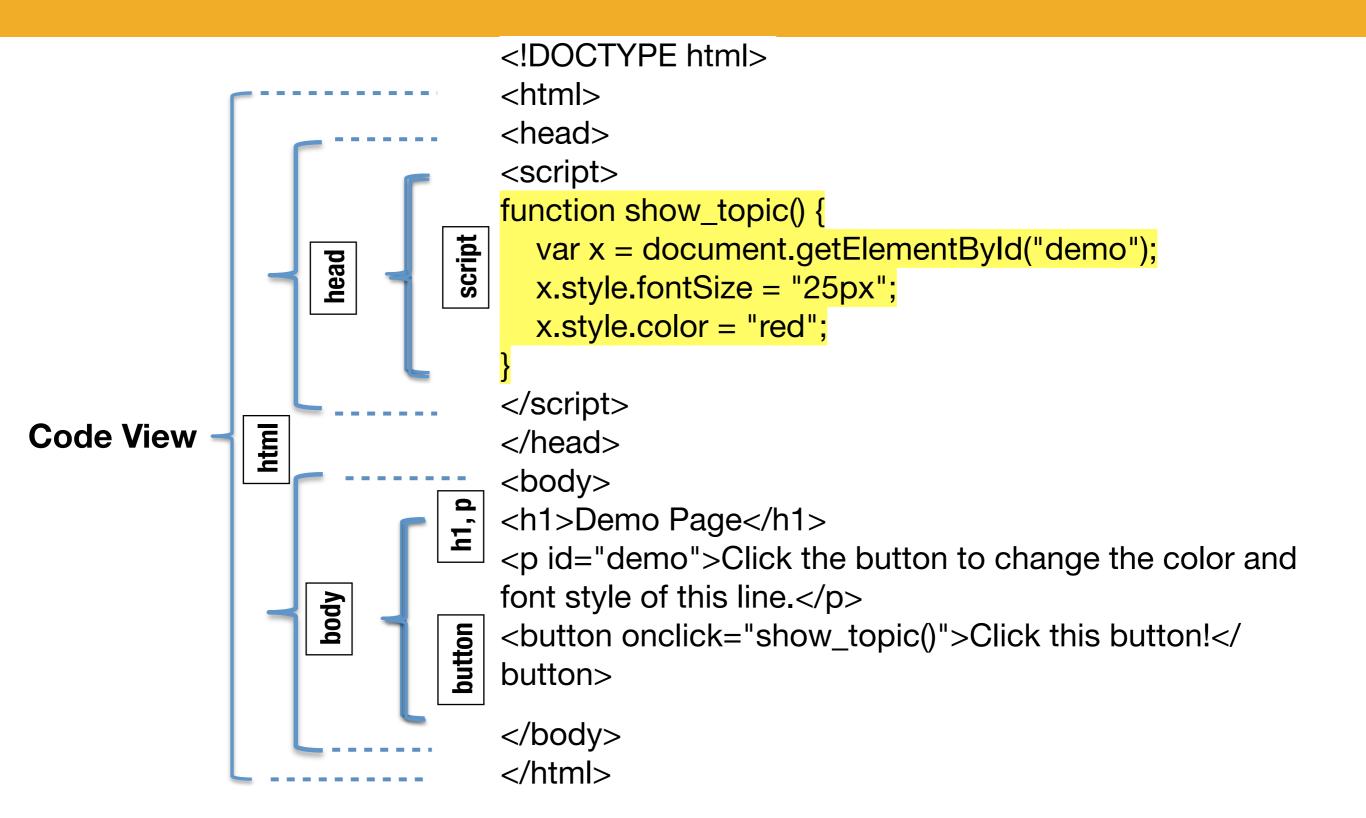
Automation & Testing

Computational thinking is about system and data.

JavaScript provides us with the capabilities to build system and transform data.

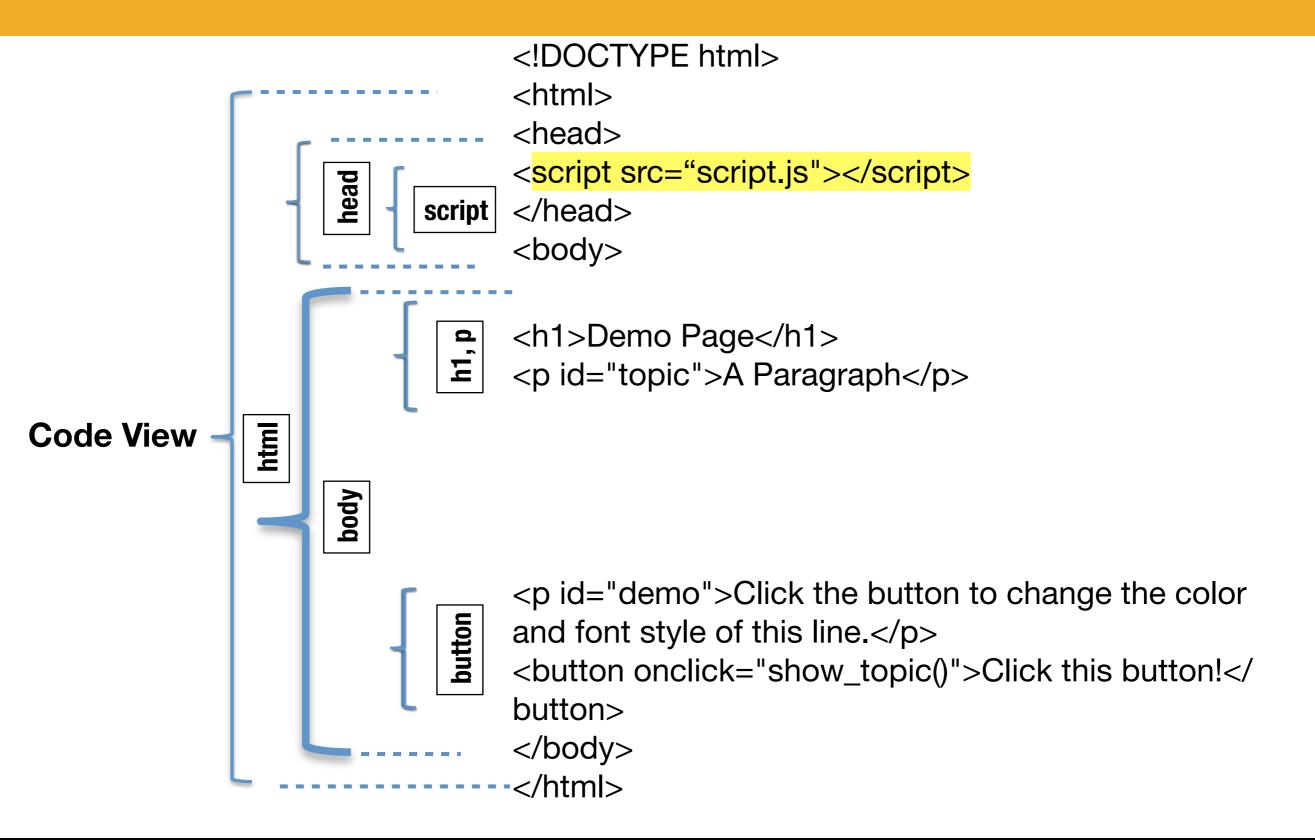
JavaScript Functions that Transform Input into Output

Basic Structure of a JavaScript Function



Similar to CSS, JS can be placed in an External File

See an Example

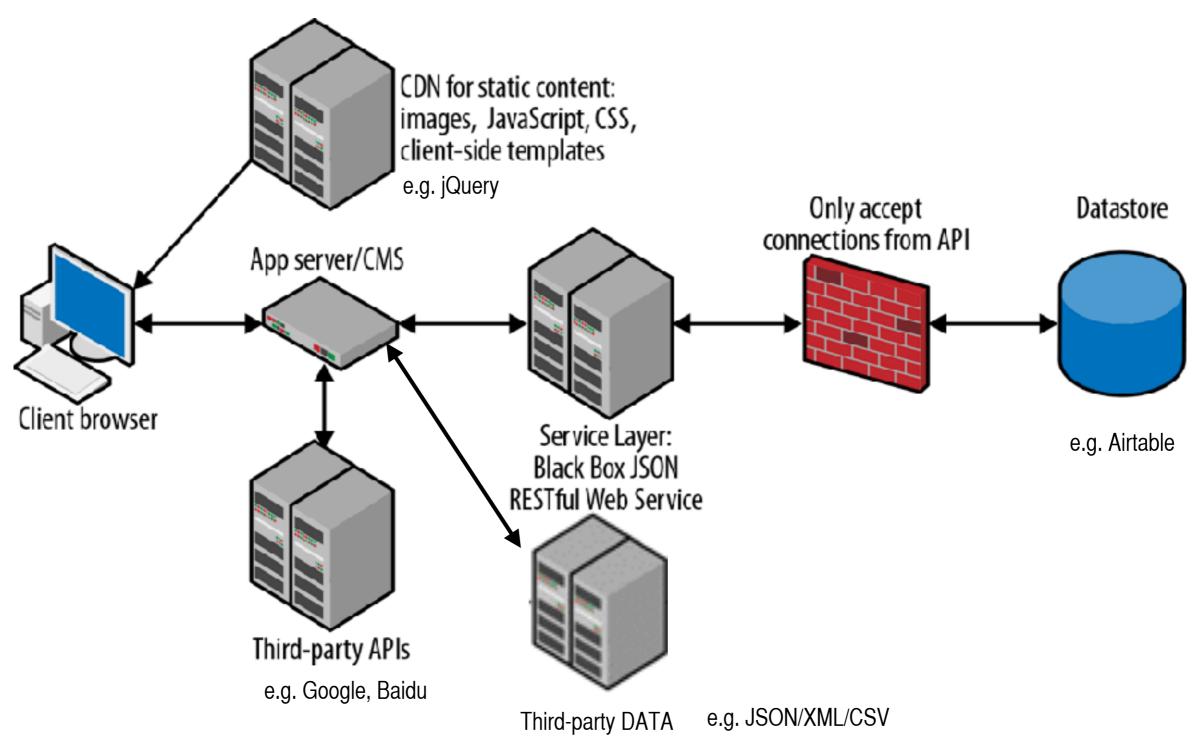


Functions in JavaScript Programming

- You can look at a function as a mini-system.
- A function is designed to transform input into output.
- You can execute a function within another function.
- A program can be viewed as a collections of functions decomposed into hierarchy of functions to get things done.
- Good programmer looks for <u>patterns</u> in job to be done and <u>abstract</u> common parameters, <u>algorithms</u>, and outcomes to be placed inside a function for <u>code reuse</u> (<u>automation</u>).

JavaScript Has Become the Most Popular Front-end Language with Pre-packaged Framework and Library Support

e.g. jQuery, AngularJS, React, Vue e.g. jQuery DataTable, D3, C3D3, Leaflet



Source: http://chimera.labs.oreilly.com





Your donations help fund the continued development and growth of jQuery.

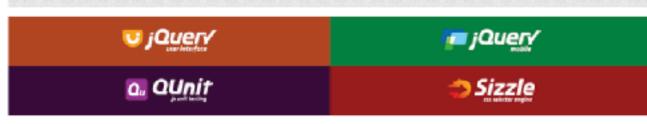
SUPPORT THE PROJECT



What is jQuery?

jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.

Other Related Projects



Resources

- iCuery Core API Documentation
- |Query Learning Center.
- jQuery Blog
- Contribute to [Query]
- About the Query Foundation
- Browse or Submit j Query Bugs

A Brief Look

Basic jQuery Structure & Syntax

This means:

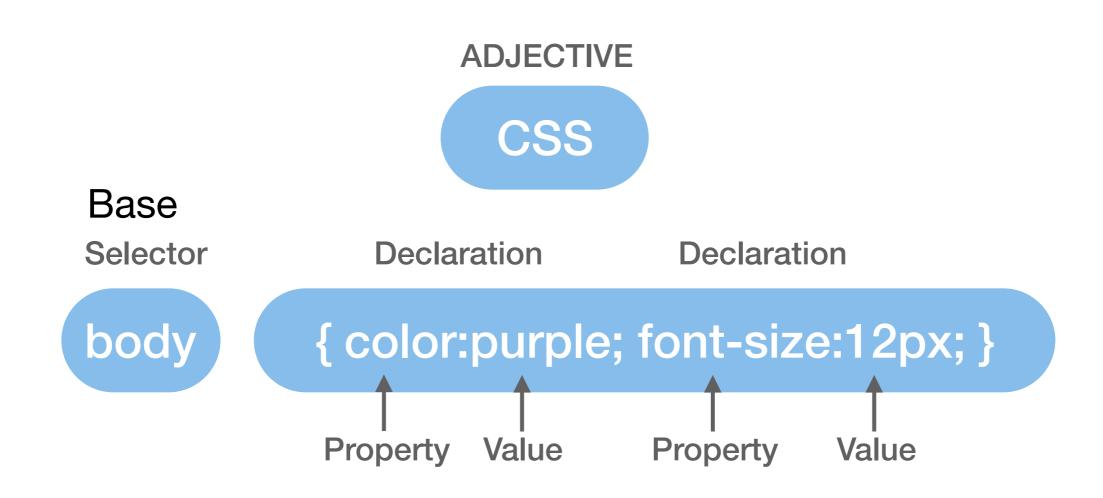
When the HTML document (i.e. DOM) is loaded, add the following jQuery functions (in orange) to your javascripts

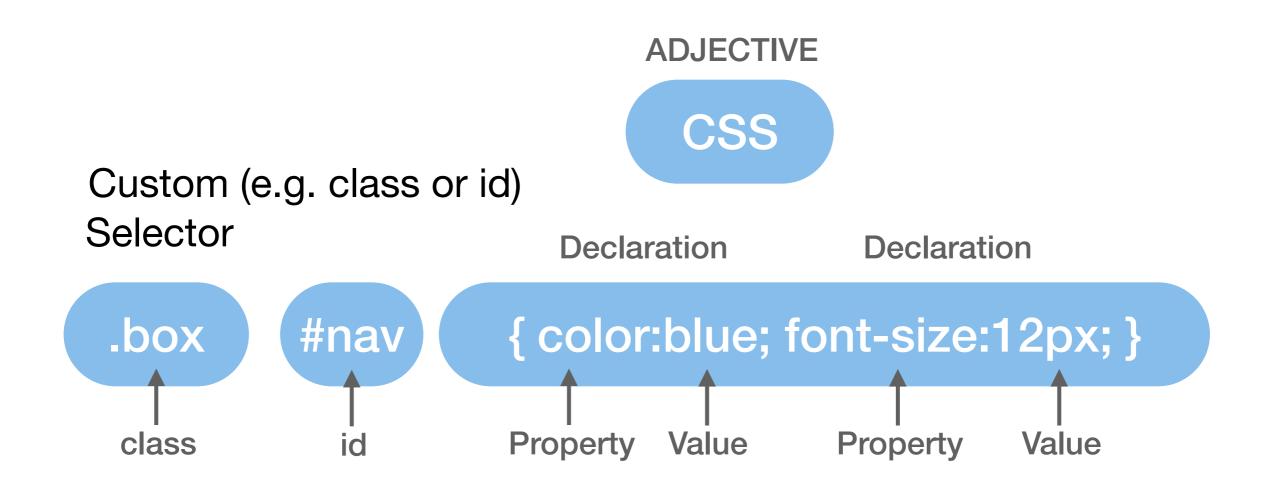
\$(document).ready(function() {

Your jQuery functions go inside here.

});

The following code demonstrates the basic structure of a jQuery function. The selector and method are two ingredients used to define a jQuery function:





Putting Everything Together

```
$(document).ready(function() {
    $("button#hide_h2").on('click',function(){
              $("h2").hide();
   });
    $("button#show_h2").on('click',function(){
              $("h2").show();
              $("h2").css("color","blue");
              $("h2").html("You clicked me.");
});
```

The HTML Form and Input Objects (Tags)

Using Bootstrap Form and Button to Make Browser UI Look Better

The Grammar of JavaScript

- JavaScript is a <u>programming language</u> that can be used to write <u>functions</u> placed inside html or an external file.
- JavaScript can be placed between the <script> and
 script> tags inside the <head> section or link to an external file through the script src link.
- JavaScript codes can be understood as a collection of <u>functions</u> that respond to <u>events triggered</u> by internal browser activities and external user interactions.
- JavaScript can be used to <u>manipulate</u> HTML elements and CSS styles.

Problem Set #2

Write a JavaScript program to create a puzzle (feel free to design a math or word puzzle as you wish). Ask the player to input values through HTML form and display the result inside a box (with an ID selector) positioned inside the browser.

Problem Set #3

- Scrape a website with ParseHub and download the CSV.
- Pick a open dataset and download it for cleaning with Refine.

OR

 Scrape a website with ParseHub and bring it into Refine for cleaning. Thank You!