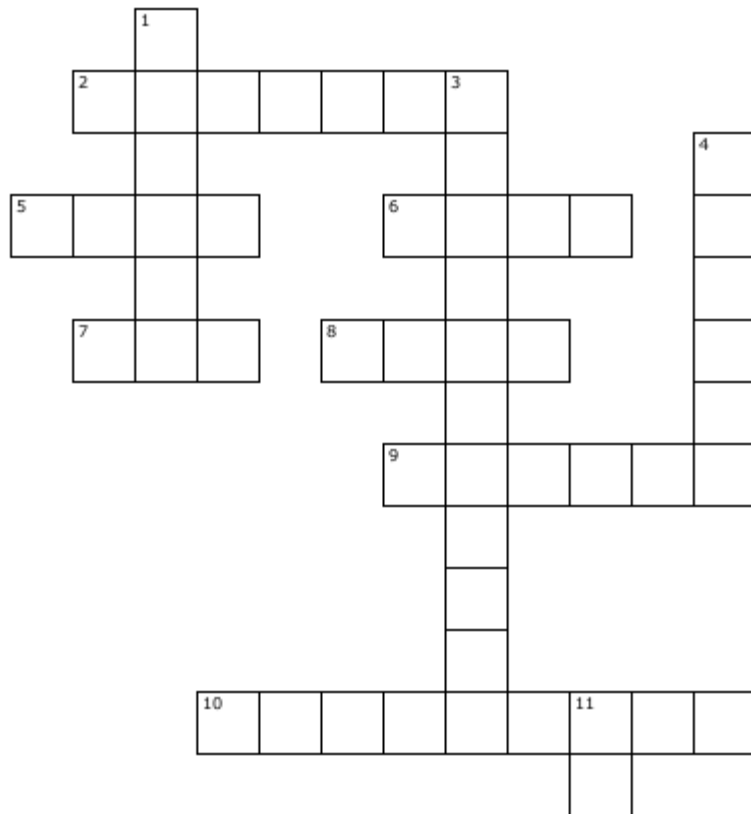# Dynamic vs Static Websites

Web Authoring and Design

Benjamin Kenwright

Outline

- Review
- What do we mean by static and dynamic websites?
- Content management systems
- Summary
- Review/Discussion

Crossword Solutions

Across

2. A program commonly used to write HTML.

5. Standard Protocol for a web page.

6. Used to navigate websites.

7. Unique address for every page on the internet.

8. The code used for making website.

9. Where a website is hosted.

**10.** A link on a webpage which navigates you to another web page.

Down

1. Usually contains copyright notices, publication dates, etc.

3. A program usually used to code websites.

4. Head of a web page.

11. Internet Protocol.

Have printed out/or copied out your answers and brought them with you for this lesson

Revision Question

- **Write down** the HTML/CSS code to create an 'Image' Rollover Effect (5 Minutes)
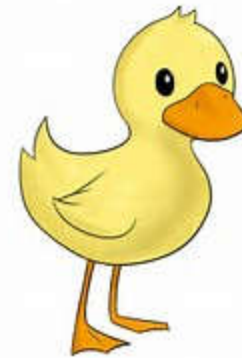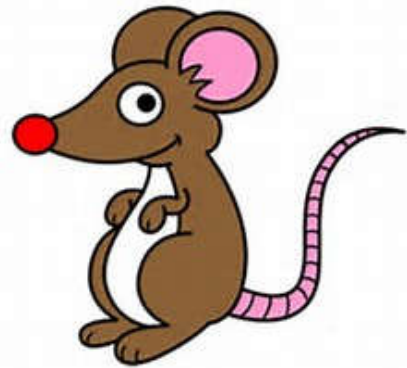
mouse over the Image Link
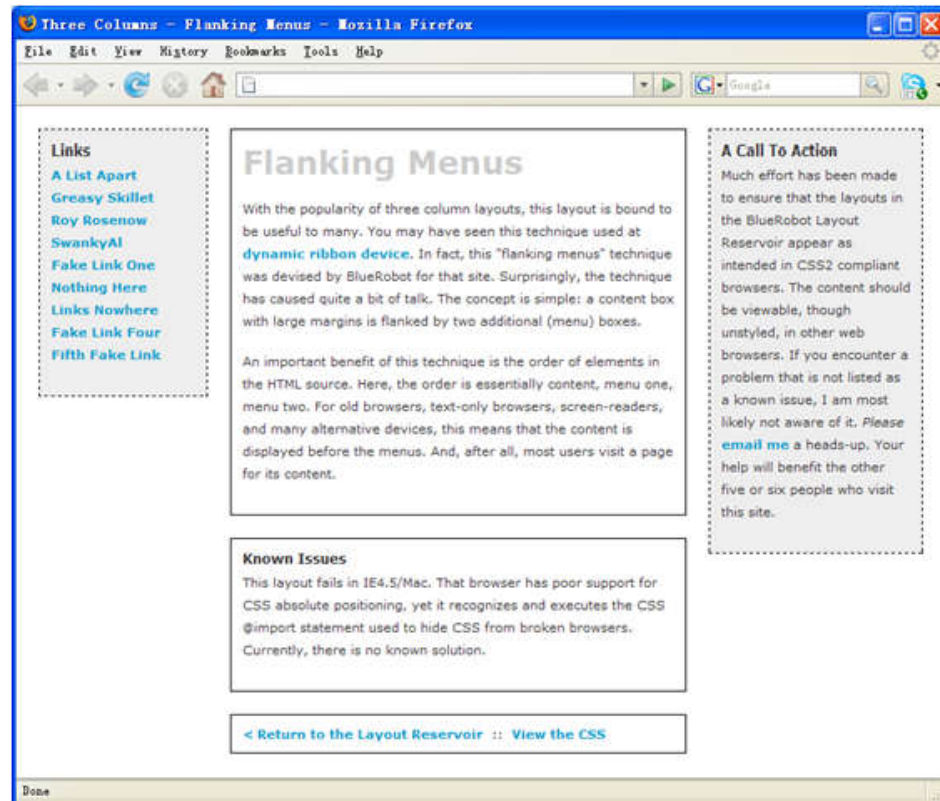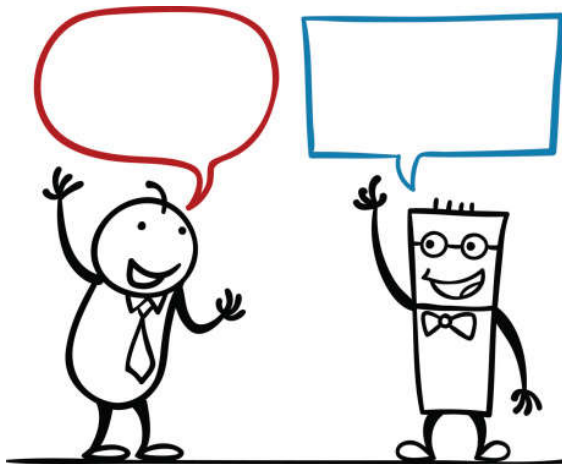
Answer

```
<!DOCTYPE html>
<html >
<head>
<style type="text/css">
    .urlImg {
        width: 185px;
        height:185px;
        display:block;
        background-image: url('img/duck.png');
    }
    .urlImg:hover {
        background-image: url('img/peng.png');
    }
</style>
</head>

<body>
<a href="http://www.hello.com" class="urlImg"></a>
</body>
</html>
```

Activity

- Write down on a piece of paper the CSS to display the following website design:

  (5 Minutes)

Answer

Three Columns Flanking Menu

```css
.content {
        position:relative;
        width:auto;
        min-width:120px;
        margin:0px 210px 20px 170px;
        border:1px solid black;
        padding:10px;
        z-index:3; /* This allows the content to
overlap the right menu in narrow windows in
good browsers. */
}
#navAlpha {
        position:absolute;
        width:128px;
        top:20px;
        left:20px;
        border:1px dashed black;
        background-color:#eee;
        padding:10px;
        z-index:2;

}
```

```css
#navBeta {
        position:absolute;
        width:168px;
        top:20px;
        right:20px;
        border:1px dashed black;
        background-color:#eee;
        padding:10px;
        z-index:1;

}
```

Activity

■ Write down on a piece of paper the output for the following HTML/CSS:

```
<!DOCTYPE html>
<html>
<head>
<style>
img {
    width:100%;
}
</style>
</head>
<body>

<p>The domestic cat is a small mammal.</p>
<img src="cat.jpg" alt="My cat" width="128" height="128">

<p>Cats like milk.</p>
<img src="cat.jpg" alt="My cat" style="width:128px;height:128px;">

</body>
</html>
```

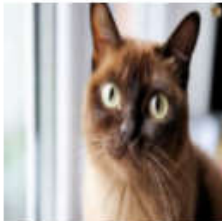# Answer

The domestic cat is a small mammal.

Cats like milk.

This stylesheet sets the width of all images to 100%:

```
<!DOCTYPE html>
<html>
<head>
<style>
img {
     width:100%;
}
</style>
</head>
<body>

<p>The domestic cat is a small mammal.</p>
<img src="cat.jpg" alt="My cat" width="128" height="128">

<p>Cats like milk.</p>
<img src="cat.jpg" alt="My cat" style="width:128px;height:128px;">

</body>
</html>
```

Style attribute, where the width is set to 128 pixels which overrides the stylesheet

Content, Style and Behavior

- HTML defines the structure and layout of a Web document by using a variety of tags and attributes.

- Since its initial introduction in late 1991, it came to encompass a wider variety of stylistic and dynamic behavior capabilities to meet the demands of web developers.

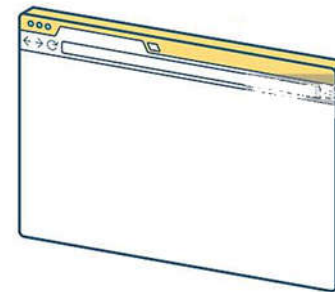- Web page, we can find that, it can consist of up to **three layers**

Three Types

- Content
- Style
- Behavior

Content

- Content or Structure is the base layer, we presented it through HTML (Hyper Text Markup Language) format and it describes text, graphics, and files containing other information are organized and linked together
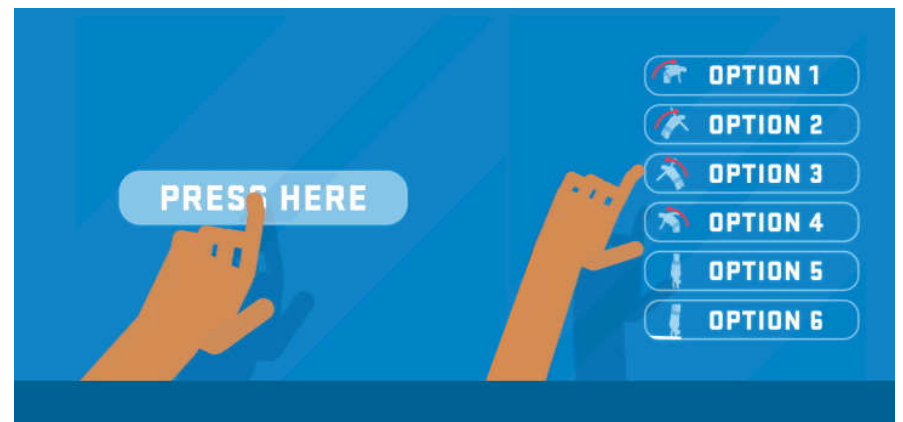
Style

■ Style or Presentation, we can focus on making the site look attractive, by adding a layer of presentation information using CSS (Cascading Style Sheet)
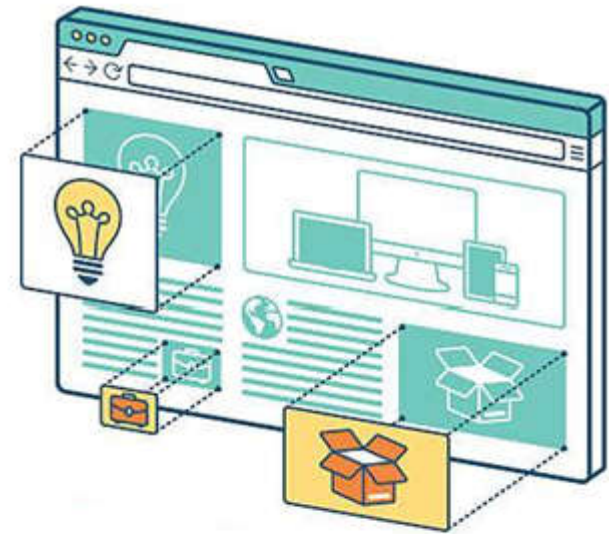
Behavior

- Behavior, we can use JavaScript to introduce an added layer of user interaction and dynamic behavior, which will make the site easier to use in browsers equipped with JavaScript

Static vs Dynamic Websites
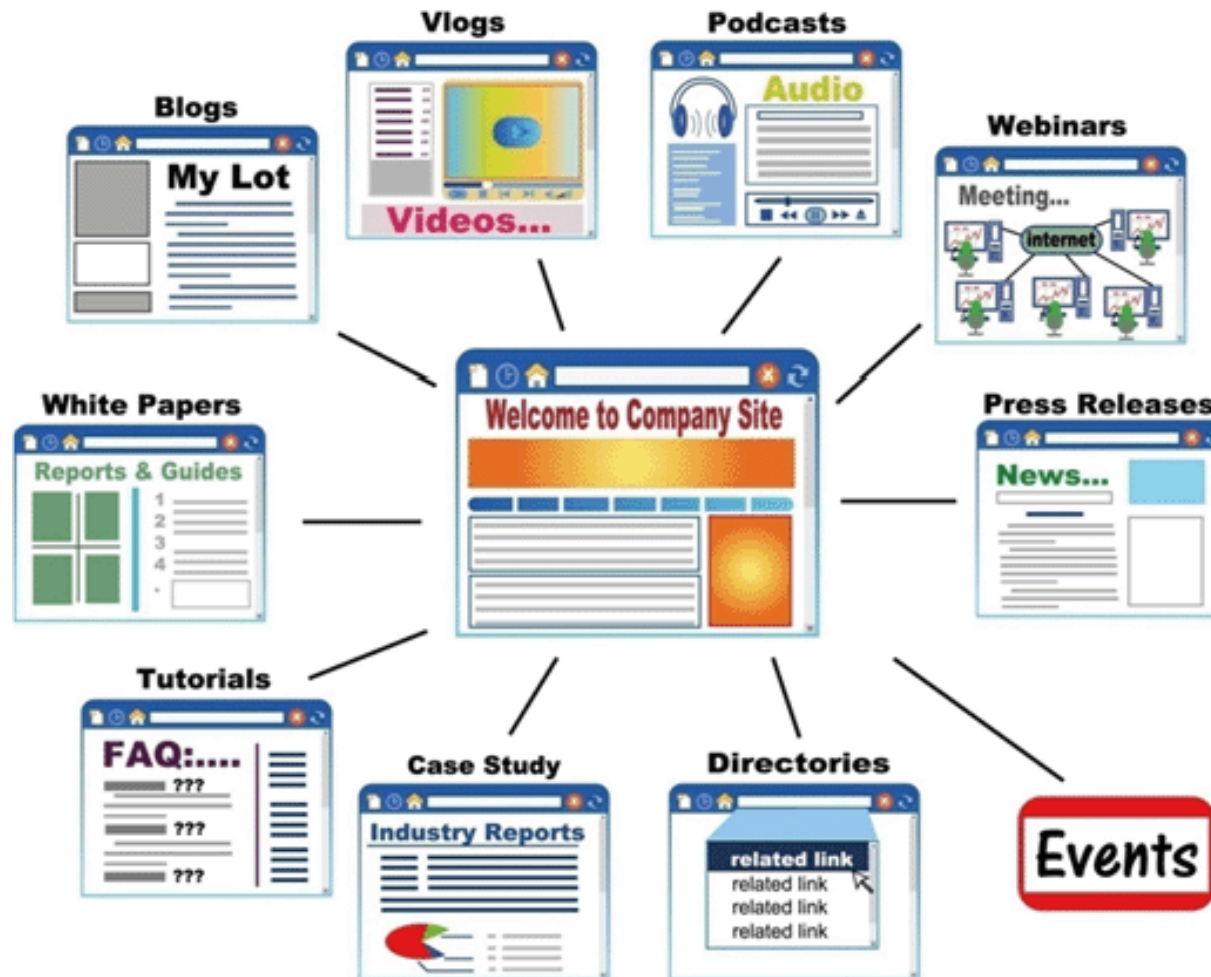
Static Website

Server → Client/Browser

Dynamic Website

Server → Database(s) → Client/Browser

Output:
<html>
<body>
 Have a good day
</body>
</html>

Server content:
<html>
<body>

Generated.....

</body>
</html>

Request

Computer

Server

Preprocessor

Database

Sends html code

online stores &
e-commerce

email forms &
newsletters

blogging

add &
edit
website
pages

dynamic
website

social
media
integration

events &
calendars

videos & photo
galleries

search engine
friendly design
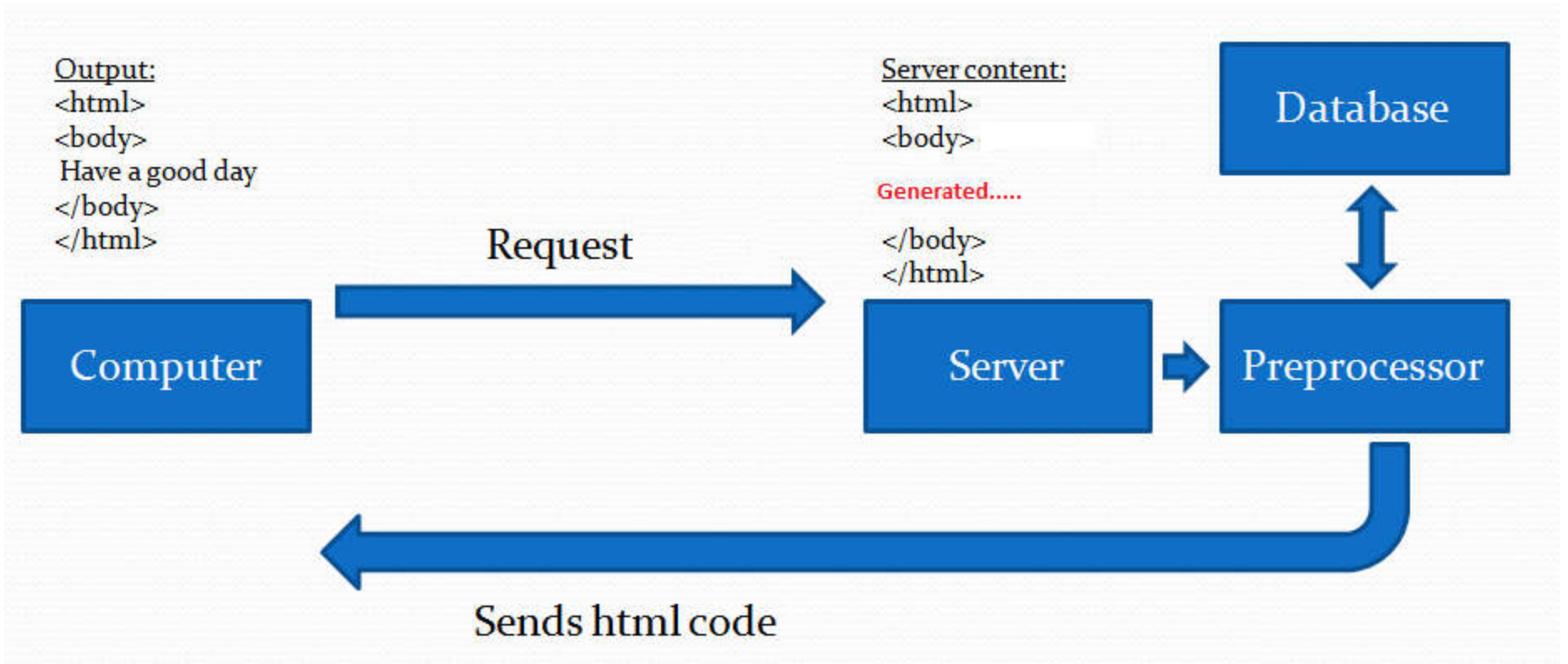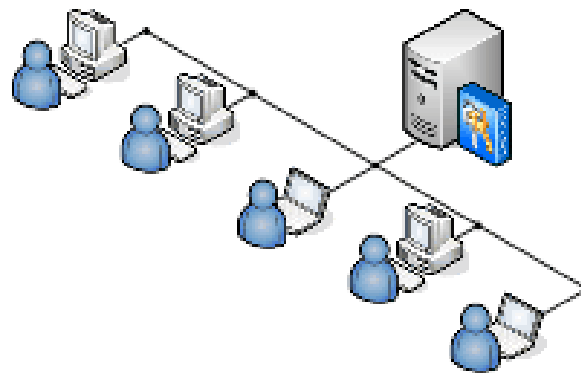
Client side vs Server side

- web programming, there are two different types of programming models: Client side programming and Server side programming

Client

- Client side programming considers to scripts that run within your web browser and these scripts has no interaction with a web server in order for the scripts to run
- Javascript is the most popular client side scripting language

Server

- Server-side programming refers to programs that run on the web server, which then sends results to your web browser

- For example, PHP, Perl, Asp, .net, are the popular Server side programming languages

Question

■ Is Java the most popular client side scripting language?

a) True
b) False

Answer

b) False

Javascript is the most popular client side scripting language

Javascript

- Javascript programs runs only in the web browsers and these scripts are read and executed by an interpreter (or engine) inside the web browser

- The most common uses of JavaScript are interacting with clients, getting available information from them, and validating their actions

Javascript is Case-Sensitive

- First and most important thing regarding Javascript is that it is case sensitive

- Everything defined in the Javascript is case sensitive, that means a variable 'var' is different from a variable named 'Var'

Embedded in your HTML files

- Javascript between the <script> ...
</script> tags. When the browser encounters a <script> tag, it assumes that the script block is written in JavaScript

- You can place these script blocks in the <head> or in the <body> section of HTML page or you can use both sections at the same time

Question

■ Is Javascript case sensitive?

a) True
b) False

Answer

- a) True

Javascript is case sensitive

Question

- The <script> blocks has to be in the <head> section of HTML page?

a) True
b) False

Answer

- b) False

The <script> blocks can be in the <head> or in the <body> section of HTML

Javascript at Head section

```html
<!DOCTYPE html>
<html>
    <head>
        <script>
            alert("Javascript run at HEAD section");
        </script>
    </head>
    <body>
    </body>
</html>
```

Javascript at Body Section

```
<!DOCTYPE html>
<html>
    <head>
    </head>
    <body>
        <script>
            alert("Javascript run at BODY section");
        </script>
    </body>
</html>
```

External Script File

- Either be embedded in your HTML files or placed in an external script file with a .js extension

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

Example
JavaScript Program

■ .html file and type the following code:

```html
<!DOCTYPE html>
<html>
<body bgcolor="white">
    <p>First Javascript Program</p>
    <script type=text/javascript>
        alert("Click OK to change the background color !!!");
        document.bgColor = "red";
    </script>
</body>
</html>
```

■ What will happen?

What Happens...

■ When you open the file in web browser, first you get a message box in a white background and then you press OK button you can see the background color is changed to RED color

```html
<!DOCTYPE html>
<html>
<body bgcolor="white">
    <p>First Javascript Program</p>
    <script type=text/javascript>
        alert("Click OK to change the background color !!!");
        document.bgColor = "red";
    </script>
</body>
</html>
```
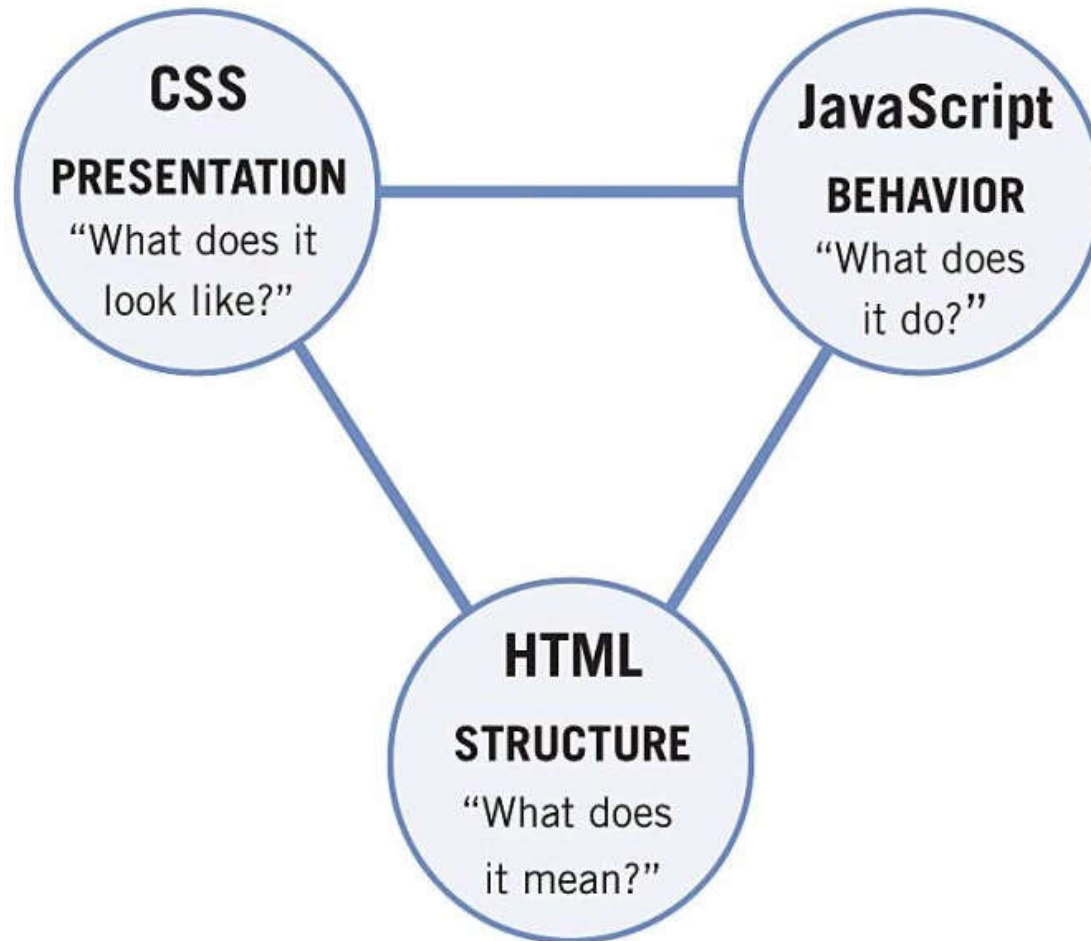
Activity

Explain the potential advantages of using Javascript on your web pages?

Review

XHTML
Structure

CSS
Presentation

JavaScript
Interaction

Web browsers, like Internet Explorer, show web pages based on three types of client-side code: XHTML, CSS, and JavaScript.

The Web Page
Combination of XHTML, CSS, JavaScript

```
<ul class="anno
    <li><a href=
to present, vis
    <li><a href=
        Short hist
    <li><a href=
        Morrill Ac
    <li><a href=
        Board of T
    <li><a href=
        1857 to pr
    <li><a href=
```
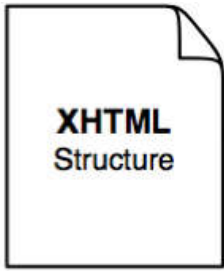
```
font-family: A
font-size: 75%;
padding:5px;

font-family: A
font-size: 125
font-weight: b

font-family: A
```
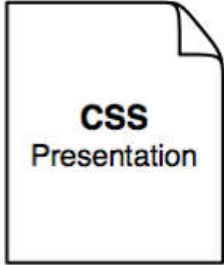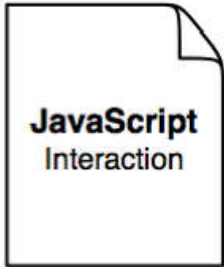
```
colorCount =
nextSlide();

nText(){
imeout(timeOutI
orCount>0){
    var pHolder =
    pHolder.style
    timeOutID = s
```

| Future Students | Current Students | Pare |

► Home

► This Is MSU
► Board & Administration

► Academics
► Extension & Outreach
► International Presence
► Research

This Is MSU

Known internationally as
global reach, Michigan St
advancing knowledge and
innovative teaching, rese
years. MSU is a member c
Universities, the National
and Land-Grant Colleges,

main.css   main.js   index.html ×

```
 1  <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
 2  "http://www.w3.org/TR/html4/loose.dtd">
 3  <html xmlns="http://www.w3.org/1999/xhtml">
 4      <head>
 5          <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
 6          <title>New Web Project</title>
 7      </head>
 8      <body>
 9          <h1>New Web Project Page</h1>
10      </body>
11  </html>
12
```
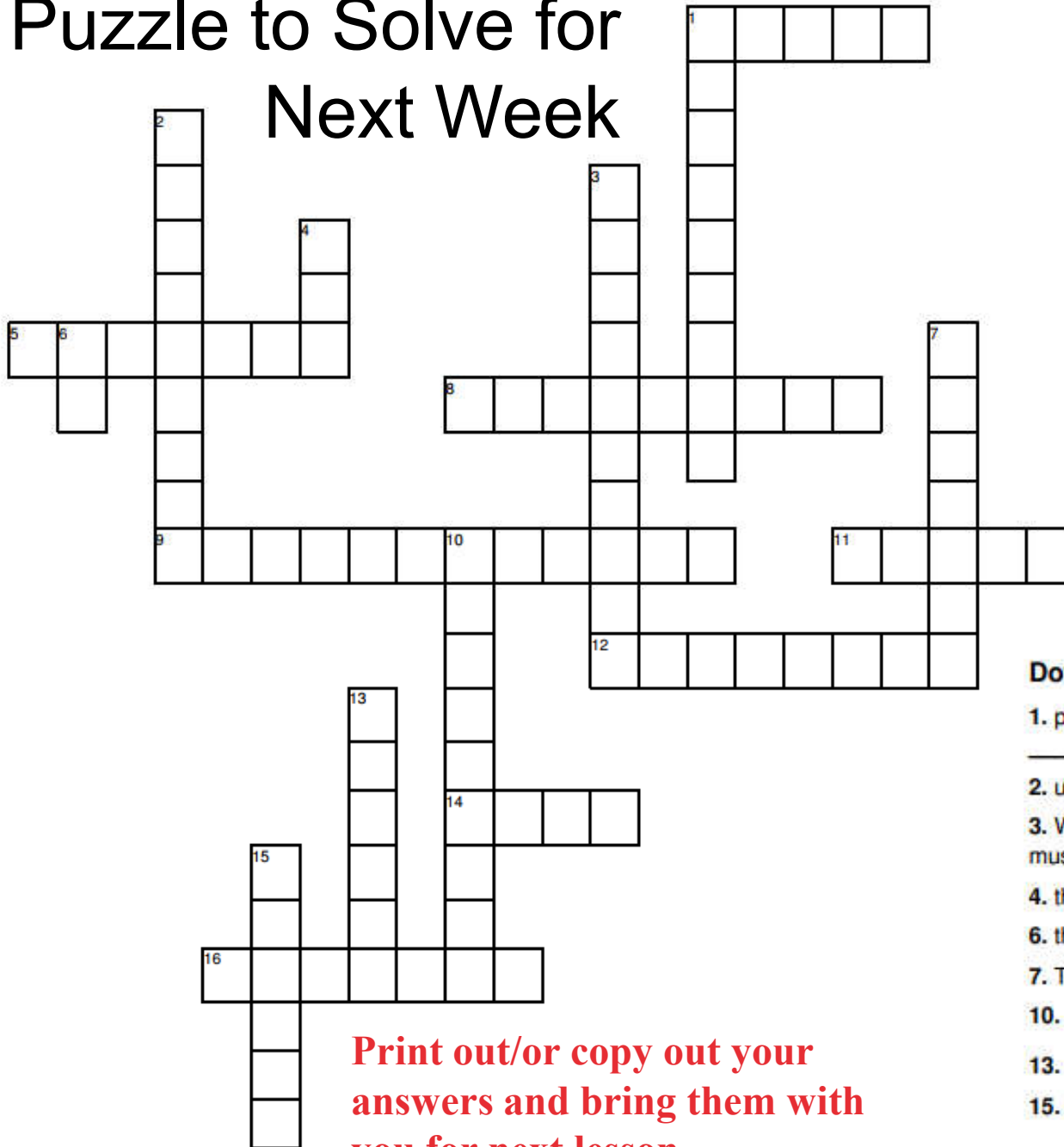
Summary

- Overview of Dynamic and Static Websites

- Dynamic websites (Generated Content)

- Getting started with scripting and Javascript

- Hands-On/Practical

This Week

- Review Slides

- Read Associated Chapters

- Weekly Tasks

  ▷ Update GitHub Account/Webpage

- Online Quizzes

- Crossword Challenge

Puzzle to Solve for Next Week


Across

1. CSS code is placed between the _____ tags

5. there are six different _____ tags

8. the name of the < p > tag

9. 'color' and 'background-color' are examples of _____.

11. the name of the < br > tag

12. The largest/smallest heading tag is < h6 >.

14. for something to show on a webpage it must be between the _____ tags

16. uses the tag < ol > to make a list

Down

1. p, .p, and #p are examples of CSS element _____

2. uses the tag < ul> to make a list

3. When using the 'alt' attribute, the description you use must be in _____

4. the tag used to add pictures

6. the tag that makes words italicized

7. The largest/smallest heading tag is < h1 >.

10. a property that goes inside a tag to "customize" it

13. src is the _____ attribute for the < img >.

15. the tag that makes words bold

Print out/or copy out your answers and bring them with you for next lesson

Questions/Discussion

Challenge
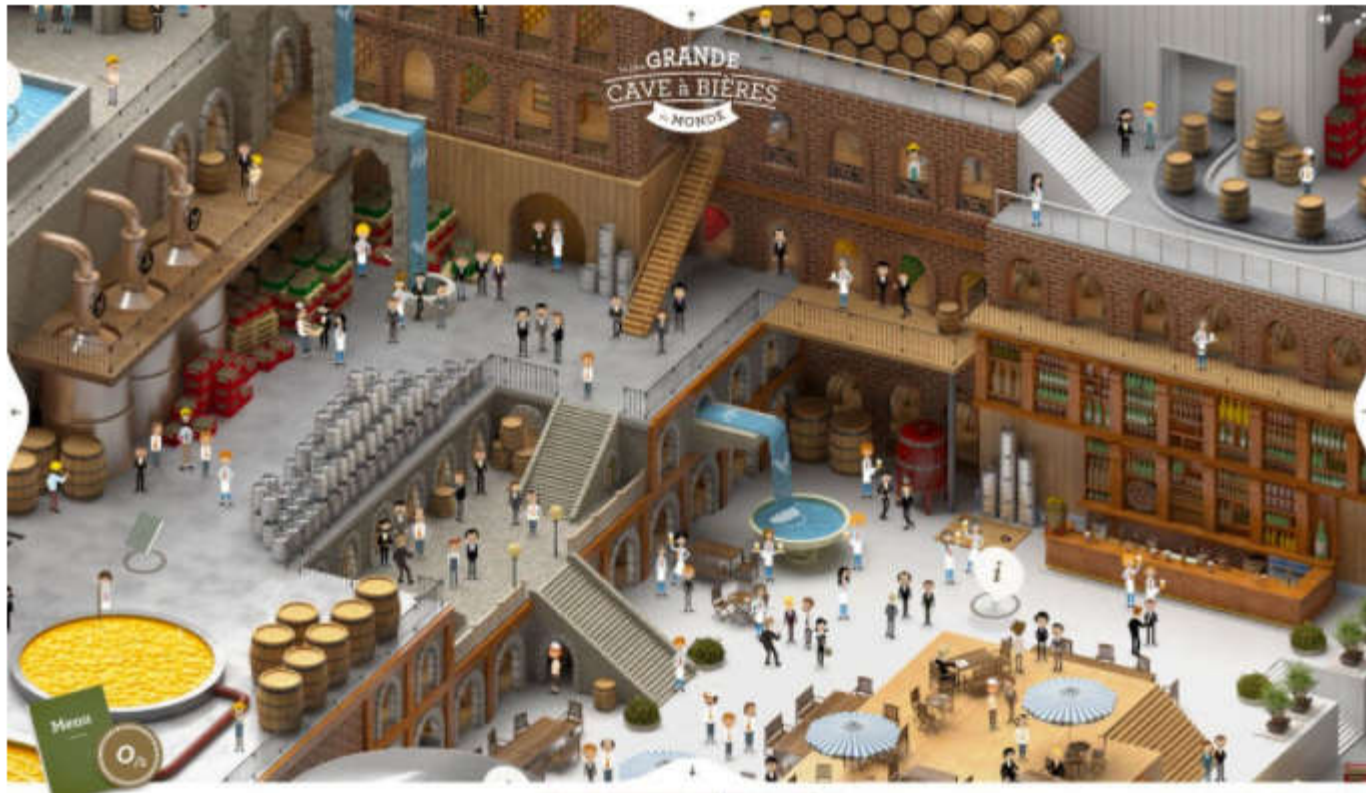
- Implement a similar website design
- Navigation elements are within the image (e.g., people, tables, …)
- Popup information, hover over images/text, …

Question

- What would the following HTML/CSS output?

```
<!DOCTYPE html>
<html>
    <head>
        <title>Page Title</title>
        <style type="text/css">
            body {
                text-align: center;}
            p {
                width: 300px;
                padding: 50px;
                border: 20px solid #00ff00;}
            p.example {
                margin: 10px auto 10px auto;
                text-align: left;}
        </style>
    </head>
    <body>
        <p>Apples</p>
        <p class="example">Oranges</p>
    </body>
</html>
```

Answer
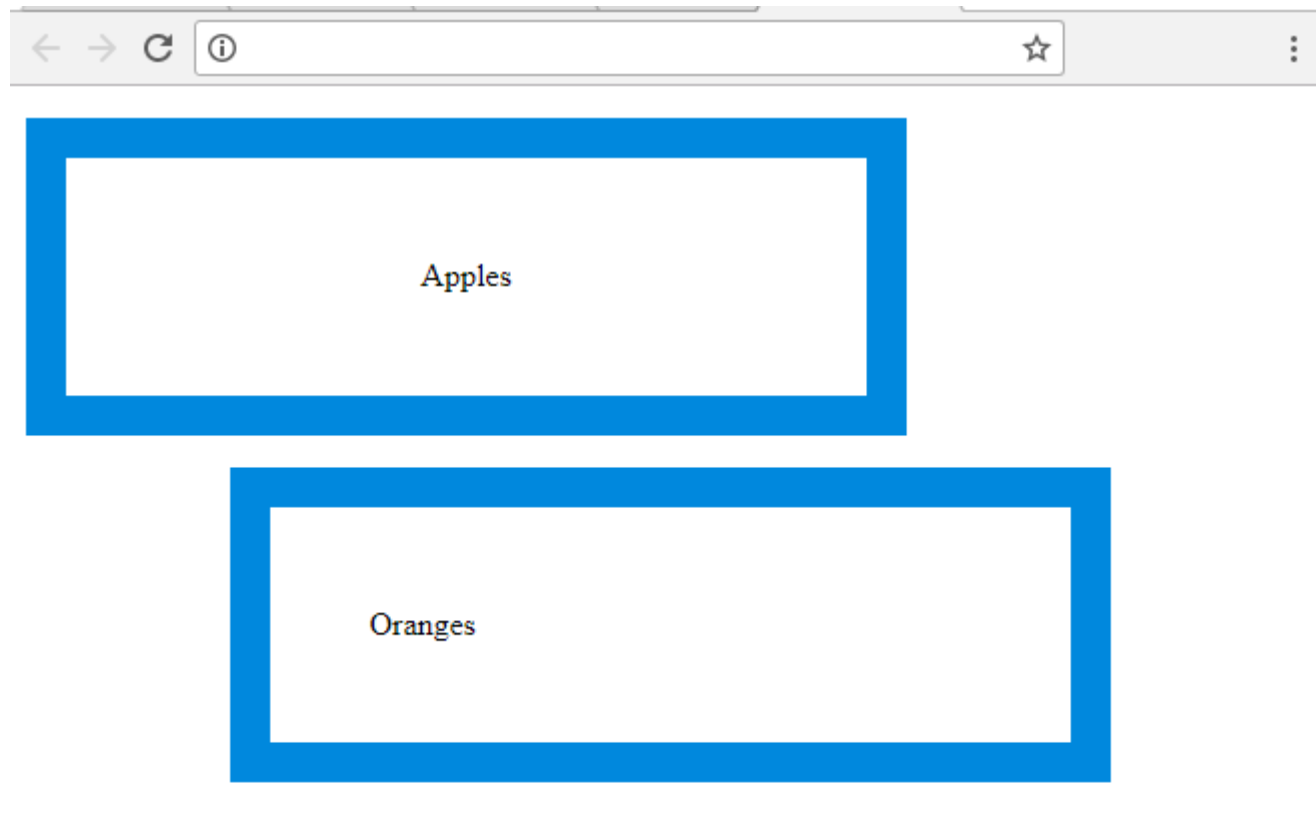
Question

- Write a simple HTML/Javascript program to bring up an popup dialog box in the browser

Answer

```
<!DOCTYPE html>
<html>
    <head>
    </head>
    <body>
        <script>
            alert("Javascript run at BODY section");
        </script>
    </body>
</html>
```

LEARN TO SPEAK

FRENCH
SPANISH
HTML
CSS

Interesting CSS Features

Drop Caps Using CSS

First-Letter

This paragraph has the class "introduction". If your browser s "first-letter", the first letter will be a drop-cap. Lorem ipsum consectetuer adipiscing elit. Ut hendrerit, pede vel tristique digni neque, vitae pellentesque neque leo a tortor. Nullam tempor, nis

```
1.   p:first-letter{
2.   display:block;
3.   margin:5px 0 0 5px;
4.   float:left;
5.   color:#FF3366;
6.   font-size:3.0em;
7.   font-family:Georgia;
8.   }
```

Print Page Breaks

- CSS you can control the page breaks - users might like to print your webpage/article

```
1.   html{ overflow-y:scroll; }
```

- Add this class to any tag which you would like to print on next page