

## In-class Lab 03

## ASP.NET Core MVC

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## 0 Introduction

In this lab, we will have a very brief review of CSS. If you need more than this brief review, you can find some good tutorials online. One very good tutorial is at <https://www.w3schools.com/css/default.asp>. The canonical reference to all things HTML is the official specification, at <https://www.w3.org/TR/CSS2/>.<sup>1</sup>

- <https://www.w3.org/TR/CSS2/> — Revision 2
- <https://www.w3.org/TR/2011/REC-CSS2-20110607/> — Revision 1
- <https://www.w3.org/Style/CSS/specs.en.html>
- <https://www.w3.org/TR/CSS2/>

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<sup>1</sup>This is not the current version, but is the one we will be working from.

This lab consists of four parts. Part 1 is inline styles, syntax, fonts, text, and colors. Part 2 is page level styles, selectors, the box model, borders, padding, and margins. Part 3 is external styles, display attributes, and JavaScript event handlers. Part 4 is the grid model and a brief introduction to Bootstrap. You will complete this lab step by step.

In order to learn CSS, we need an HTML document to apply styles to. Open the file named *speeches.txt* and save it as *lab03-partA-yourname.html*. Then edit the file to turn it into a proper HTML document. We will do this in class. We will use this text file several times in this lab.

## 1 Inline styles, syntax, fonts, and text

### 1.1 Style attribute

```
<div style="property1: value1; property1: value2">content of div</div>
<span style="property1: value1; property1: value2">content of span</span>
<p style="property1: value1; property1: value2">content of paragraph</p>
```

### 1.2 Fonts

#### 1. font-family

- (a) serif
- (b) sans-serif
- (c) cursive
- (d) fantasy
- (e) monospace

#### 2. font-style

- (a) normal
- (b) italic
- (c) oblique

#### 3. font-variant

- (a) normal
- (b) small-caps

#### 4. font-weight

- (a) 100 – 900

#### 5. font-size

- (a) absolute size, e.g. pt, px, em, en
- (b) absolute size, e.g. small, medium, large, etc.

### 1.3 Text

#### 1. text-decoration

- (a) none
- (b) underline
- (c) overline

- (d) line-through
  - (e) blink
- 2. text-indent
  - (a) length
  - (b) percent
- 3. text-align
  - (a) left
  - (b) right
  - (c) center
  - (d) justify
- 4. letter-spacing
- 5. word-spacing
- 6. text-transform
  - (a) capitalize
  - (b) uppercase
  - (c) lowercase
  - (d) none
- 7. white-space
  - (a) normal
  - (b) pre
  - (c) nowrap
  - (d) other (pre-wrap, pre-line)

## 2 Page level styles, selectors, the box model, borders, padding, and margins

### 2.1 Style element

```
<style type="text/css" media="screen">  
...  
</style>
```

### 2.2 Selectors

1. type selectors
2. descendant selectors
3. child selectors
4. class selectors
5. ID selectors
6. pseudo classes, :link, :visited, :hover, :active, :focus

## 2.3 Colors and Backgrounds

1. color
  - (a) color names
  - (b) `rgb(123,110,002)`
  - (c) `#FF9A23`
2. Background properties
  - (a) `background-color`
  - (b) `background-image`
  - (c) `background-repeat`
  - (d) `background-attachment`
  - (e) `background-position`

## 2.4 Box model

1. margin
  - (a) `'margin-top'`
  - (b) `'margin-right'`
  - (c) `'margin-bottom'`
  - (d) `'margin-left'`
  - (e) `'margin'`
2. border
  - (a) `border-width`
  - (b) `border-color`
  - (c) `border-style`
3. padding
  - (a) `padding-top`
  - (b) `padding-right`
  - (c) `padding-bottom`
  - (d) `padding-left`
  - (e) `padding`

## 3 External styles, positioning, and JavaScript event handlers

### 3.1 Link element

```
<link href="styles/mystyle.css" rel="stylesheet" type="text/css" media="screen" />
```

## 3.2 Visual formatting

1. display
  - (a) block
  - (b) inline
  - (c) none
2. position
  - (a) absolute
  - (b) fixed
    - i. top
    - ii. right
    - iii. bottom
    - iv. left
  - (c) static
  - (d) relative
  - (e) z-index
3. float
  - (a) left
  - (b) right
  - (c) none
4. float
  - (a) width
  - (b) height
  - (c) visibility
  - (d) clip
  - (e) overflow
5. cursor
  - (a) crosshair
  - (b) default
  - (c) pointer
  - (d) move
  - (e) e-resize
  - (f) ne-resize
  - (g) nw-resize
  - (h) n-resize
  - (i) se-resize
  - (j) sw-resize
  - (k) s-resize
  - (l) w-resize
  - (m) text
  - (n) wait
  - (o) help
  - (p) progress
  - (q) inherit

## 4 The grid model and Bootstrap

### 4.1 Grid 1

---

```
<!DOCTYPE html>
<html>
  <head>
    <title>Grid Example 01</title>
    <style>
      div {
        border: 2px black solid;
      }
      #div01 {
        background-color: #ffaafaa;
      }
      #div02 {
        background-color: #aaffaa;
      }
      #div03 {
        background-color: #aaaaaf;
      }
      #div04 {
        background-color: #ffffaa;
      }
      #div05 {
        background-color: #ffaaff;
      }
      #div06 {
        background-color: #aaffff;
      }
    </style>
  </head>
  <body>
    <h1>Grid Example 1</h1>
    <div id="div01"> 1 </div>
    <div id="div02"> 2 </div>
    <div id="div03"> 3 </div>
    <div id="div04"> 4 </div>
    <div id="div05"> 5 </div>
    <div id="div06"> 6 </div>
  </body>
</html>
```

---

### 4.2 Grid 2

---

```
<!DOCTYPE html>
<html>
  <head>
    <title>Grid Example 02</title>
    <style>
      div {
        border: 2px black solid;
        text-align: center;
        font-size: 24pt;
      }
    </style>
  </head>
  <body>
    <div id="div01"> 1 </div>
    <div id="div02"> 2 </div>
    <div id="div03"> 3 </div>
    <div id="div04"> 4 </div>
    <div id="div05"> 5 </div>
    <div id="div06"> 6 </div>
  </body>
</html>
```

---

```

        #master {
            display: grid;
        }
        #div01 {
            background-color: #ffaata;
        }
        #div02 {
            background-color: #aaffaa;
        }
        #div03 {
            background-color: #aaaaaf;
        }
        #div04 {
            background-color: #ffffaa;
        }
        #div05 {
            background-color: #ffaaff;
        }
        #div06 {
            background-color: #aaffff;
        }
    }
</style>
</head>
<body>
    <h1>Grid Example 2</h1>
    <div id="master">
        <div id="div01"> 1 </div>
        <div id="div02"> 2 </div>
        <div id="div03"> 3 </div>
        <div id="div04"> 4 </div>
        <div id="div05"> 5 </div>
        <div id="div06"> 6 </div>
    </div>
</body>
</html>

```

## 4.3 Grid 3

```

<!DOCTYPE html>
<html>
    <head>
        <title>Grid Example 03</title>
        <style>
            div {
                border: 2px black solid;
                text-align: center;
                font-size: 24pt;
                padding: 12px;
            }
            #master {
                display: grid;
                grid-template-columns: 500px 500px 500px;
                grid-template-rows: 500px 500px;
            }
            #div01 {

```

```

        background-color: #ffaana;
    }
    #div02 {
        background-color: #aaffaa;
    }
    #div03 {
        background-color: #aaaaaff;
    }
    #div04 {
        background-color: #ffffaa;
    }
    #div05 {
        background-color: #ffaaff;
    }
    #div06 {
        background-color: #aaffff;
    }
</style>
</head>
<body>
    <h1>Grid Example 3</h1>
    <div id="master">
        <div id="div01"> 1 </div>
        <div id="div02"> 2 </div>
        <div id="div03"> 3 </div>
        <div id="div04"> 4 </div>
        <div id="div05"> 5 </div>
        <div id="div06"> 6 </div>
    </div>
</body>
</html>

```

## 4.4 Grid 4

```

<!DOCTYPE html>
<html>
    <head>
        <title>Grid Example 04</title>
        <style>
            div {
                border: 2px black solid;
                text-align: center;
                font-size: 24pt;
                padding: 12px;
            }
            #master {
                display: grid;
                grid-template-columns: 500px 500px 500px;
                grid-template-rows: 100px 500px 100px;
            }
            #div01 {
                background-color: #ffaana;
                grid-column-start: 1;
                grid-column-end: 4;
            }

```



```

        #div02 {
            background-color: #aaffaa;
        }
        #div03 {
            background-color: #aaaaaff;
        }
        #div04 {
            background-color: #ffffaa;
        }
        #div05 {
            background-color: #fffaaff;
        }
        #div06 {
            background-color: #aafffff;
            grid-column-start: 1;
            grid-column-end: 4;
        }
    }
</style>
</head>
<body>
    <h1>Grid Example 4</h1>
    <div id="master">
        <div id="div01"> 1 </div>
        <div id="div02"> 2 </div>
        <div id="div03"> 3 </div>
        <div id="div04"> 4 </div>
        <div id="div05"> 5 </div>
        <div id="div06"> 6 </div>
        <!--
        <div id="div01"> 1 </div>
        <div id="div02"> 2 </div>
        <div id="div03"> 3 </div>
        <div id="div04"> 4 </div>
        -->
    </div>
</body>
</html>

```

## 4.5 Grid 5

```

<!DOCTYPE html>
<html>
    <head>
        <title>Grid Example 05</title>
        <style>
            div {
                border: 2px black solid;
                text-align: center;
                font-size: 24pt;
                padding: 12px;
            }
            #master {
                display: grid;
                grid-template-columns: 500px 500px 500px;
                grid-template-rows: 100px 500px 100px;
            }
        </style>
    </head>
    <body>
        <div id="master">
            <div id="div01"> 1 </div>
            <div id="div02"> 2 </div>
            <div id="div03"> 3 </div>
            <div id="div04"> 4 </div>
            <div id="div05"> 5 </div>
            <div id="div06"> 6 </div>
            <div id="div07"> 7 </div>
            <div id="div08"> 8 </div>
            <div id="div09"> 9 </div>
            <div id="div10"> 10 </div>
            <div id="div11"> 11 </div>
            <div id="div12"> 12 </div>
            <div id="div13"> 13 </div>
            <div id="div14"> 14 </div>
            <div id="div15"> 15 </div>
            <div id="div16"> 16 </div>
            <div id="div17"> 17 </div>
            <div id="div18"> 18 </div>
            <div id="div19"> 19 </div>
            <div id="div20"> 20 </div>
            <div id="div21"> 21 </div>
            <div id="div22"> 22 </div>
            <div id="div23"> 23 </div>
            <div id="div24"> 24 </div>
            <div id="div25"> 25 </div>
            <div id="div26"> 26 </div>
            <div id="div27"> 27 </div>
            <div id="div28"> 28 </div>
            <div id="div29"> 29 </div>
            <div id="div30"> 30 </div>
            <div id="div31"> 31 </div>
            <div id="div32"> 32 </div>
            <div id="div33"> 33 </div>
            <div id="div34"> 34 </div>
            <div id="div35"> 35 </div>
            <div id="div36"> 36 </div>
            <div id="div37"> 37 </div>
            <div id="div38"> 38 </div>
            <div id="div39"> 39 </div>
            <div id="div40"> 40 </div>
            <div id="div41"> 41 </div>
            <div id="div42"> 42 </div>
            <div id="div43"> 43 </div>
            <div id="div44"> 44 </div>
            <div id="div45"> 45 </div>
            <div id="div46"> 46 </div>
            <div id="div47"> 47 </div>
            <div id="div48"> 48 </div>
            <div id="div49"> 49 </div>
            <div id="div50"> 50 </div>
            <div id="div51"> 51 </div>
            <div id="div52"> 52 </div>
            <div id="div53"> 53 </div>
            <div id="div54"> 54 </div>
            <div id="div55"> 55 </div>
            <div id="div56"> 56 </div>
            <div id="div57"> 57 </div>
            <div id="div58"> 58 </div>
            <div id="div59"> 59 </div>
            <div id="div60"> 60 </div>
            <div id="div61"> 61 </div>
            <div id="div62"> 62 </div>
            <div id="div63"> 63 </div>
            <div id="div64"> 64 </div>
            <div id="div65"> 65 </div>
            <div id="div66"> 66 </div>
            <div id="div67"> 67 </div>
            <div id="div68"> 68 </div>
            <div id="div69"> 69 </div>
            <div id="div70"> 70 </div>
            <div id="div71"> 71 </div>
            <div id="div72"> 72 </div>
            <div id="div73"> 73 </div>
            <div id="div74"> 74 </div>
            <div id="div75"> 75 </div>
            <div id="div76"> 76 </div>
            <div id="div77"> 77 </div>
            <div id="div78"> 78 </div>
            <div id="div79"> 79 </div>
            <div id="div80"> 80 </div>
            <div id="div81"> 81 </div>
            <div id="div82"> 82 </div>
            <div id="div83"> 83 </div>
            <div id="div84"> 84 </div>
            <div id="div85"> 85 </div>
            <div id="div86"> 86 </div>
            <div id="div87"> 87 </div>
            <div id="div88"> 88 </div>
            <div id="div89"> 89 </div>
            <div id="div90"> 90 </div>
            <div id="div91"> 91 </div>
            <div id="div92"> 92 </div>
            <div id="div93"> 93 </div>
            <div id="div94"> 94 </div>
            <div id="div95"> 95 </div>
            <div id="div96"> 96 </div>
            <div id="div97"> 97 </div>
            <div id="div98"> 98 </div>
            <div id="div99"> 99 </div>
            <div id="div100"> 100 </div>
        </div>
    </body>
</html>

```

```

    }
    #div01 {
        background-color: #ffaana;
        grid-column-start: 1;
        grid-column-end: 4;
    }
    #div02 {
        background-color: #aaffaa;
        grid-column-start: 1;
        grid-column-end: 4;
        grid-row-start: 1;
        grid-row-start: 2;
    }
    #div03 {
        background-color: #aaaaaf;
    }
    #div04 {
        background-color: #ffffaa;
    }
    #div05 {
        background-color: #ffaaff;
        grid-column-start: 1;
        grid-column-end: 4;
        grid-row-start: 3;
        grid-row-start: 4;
    }
    #div06 {
        background-color: #aaffff;
        grid-column-start: 1;
        grid-column-end: 4;
    }
}

</style>
</head>
<body>
    <h1>Grid Example 5</h1>
    <div id="master">
        <div id="div01"> 1 </div>
        <div id="div02"> 2 </div>
        <div id="div03"> 3 </div>
        <div id="div04"> 4 </div>
        <div id="div05"> 5 </div>
        <div id="div06"> 6 </div>
    </div>
</body>
</html>

```

## 4.6 Grid 6

```

<!DOCTYPE html>
<html>
    <head>
        <title>Grid Example 06</title>
        <style>
            div {
                border: 2px black solid;

```

```

        text-align: center;
        font-size: 24pt;
    }
    #master {
        display: grid;
        grid-template-columns: 10% 45% 45%;
        grid-template-rows: 200px 100px 600px 100px;
    }
    #div01 {
        background-color: #ffaana;
        grid-column-start: 1;
        grid-column-end: 4;
        grid-row-start: 0;
        grid-row-start: 1;
    }
    #div02 {
        background-color: #aaffaa;
        grid-column-start: 1;
        grid-column-end: 4;
        grid-row-start: 1;
        grid-row-start: 2;
    }
    #div03 {
        background-color: #aaaaaf;
        grid-column-start: 1;
        grid-column-end: 2;
        grid-row-start: 2;
        grid-row-start: 3;
    }
    #div04 {
        background-color: #ffffaa;
        grid-column-start: 2;
        grid-column-end: 3;
        grid-row-start: 2;
        grid-row-start: 3;
    }
    #div05 {
        background-color: #ffaaff;
        grid-column-start: 3;
        grid-column-end: 4;
        grid-row-start: 2;
        grid-row-start: 3;
    }
    #div06 {
        background-color: #aaffff;
        grid-column-start: 1;
        grid-column-end: 4;
        grid-row-start: 3;
        grid-row-start: 4;
    }
}
</style>
</head>
<body>
    <h1>Grid Example 6</h1>
    <div id="master">
        <div id="div01"> 1 Header</div>

```

```
<div id="div02"> 2 Top Menu</div>
<div id="div03"> 3 Side Bar</div>
<div id="div04"> 4 Content Pane</div>
<div id="div05"> 5 Content Pane</div>
<div id="div06"> 6 Bottom Menu</div>
</div>
</body>
</html>
```

---