



# GRAUMAN

HI-TECH EXPERT TRAINING

## HTML-CSS-HTTP



# Introduction

## About me:

An expert lecturer for R&D departments, coach and mentor.

I'm an experienced R&D programmer and manager, consulting to R&D teams, and owns my special teaching programming, with which hundreds of my students found their first positions :).

As a co-founder in two startups.

I specialize in improving time management, empowering for self-driven growth and independency;  
as well as building management and communication for first time employees/managers.

- **Linkedin:** <https://www.linkedin.com/grauman>
- **My website:** <https://www.grauman.co.il>



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# Introduction to Web Technologies (HTML, CSS, JavaScript)



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## HTML - Past

- Created by scientists to help share and keep track of technical documentation
- Structure information for easy understanding like using h1, h2, ol, table...
- **Lots of workarounds for making pages look good.**
  - Using fragments of photos
  - Table inside table (...inside table inside...)
- But when **designers** came into play they had to have better tools
- Browser makers introduced new tags

# Introduction to Web Technologies (HTML, CSS, JavaScript)



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## HTML - Present

- Behold – I have a מנגנון for you:
- CSS lets HTML go back to doing what it does best—structure content
- Think of HTML as a method of adding structure to the content you want up on the Web
- Use HTML to organize your content and CSS to make that content look great
- Not only, it is more SEO friendly!!
  - As simpler the HTML gets, the more high will be its ranking

# Introduction to Web Technologies (HTML, CSS, JavaScript)



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```
<p>
<strong>
<font color="#0066FF" size="5" face="Verdana,
Arial, Helvetica, sans-serif">Urban Agrarian
Lifestyle</font></strong>
<br />
<font color="#FF3300" size="4" face="Georgia,
Times New Roman, Times, serif">
<em>
<strong>A Revolution in Indoor Agriculture
<br /></strong></em></font>
Lorem ipsum dolor sit amet...</p>
```

## The Urban Agrarian Lifestyle

### *A Revolution in Indoor Agriculture*

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exercitation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure.

```
<h1>The Urban Agrarian Lifestyle</h1>
<h2>A Revolution in Indoor Agriculture</h2>
<p>Lorem ipsum dolor sit amet...</p>
```

# Introduction to Web Technologies (HTML, CSS, JavaScript)



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## CSS

- Stands for **C**ascading **S**tyle **S**heet
- Currently version is 3 (referred as CSS3)
- Is used for styling the web page
- Uses selectors to target elements within the web page
- Supports animations, transitions and more

# Introduction to Web Technologies (HTML, CSS, JavaScript)



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## JavaScript

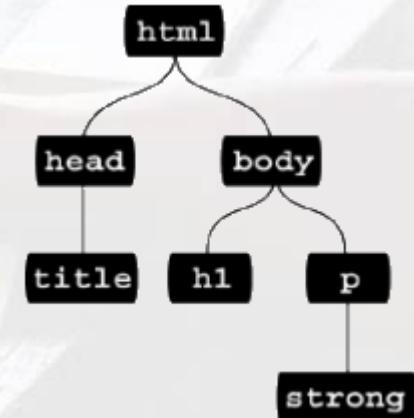
- Officially named **LiveScript** when first shipped by Netscape on **September 1995**
- The language that understands HTML and CSS and used by all browsers
- Like any other language has its building blocks you're familiar with
- Can manipulate the HTML
- Ajax made JavaScript attractive and brought professional programming attention
- Lots of JavaScript framework emerged like jQuery, Knockout, Durandal, Angular
- Now JavaScript is the most widely spread language in the world



# HTML basics

## HTML - tree

```
<html>
  <head>
    <title>A Simple Document</title>
  </head>
  <body>
    <h1>Header</h1>
    <p>A paragraph of <strong>important</strong>text.</p>
  </body>
</html>
```





# HTML basics

## HTML - div

- Empty container that you fill with content
- Has no visual
- Is used to group any number of other elements
- Is a great way to subdivide a page into logical areas
  - Header, footer, sidebar, banner...

```
<div id="footer">
    <p>Copyright 2006, <span class="bizName">CosmoFarmer.com</span></p>
    <p>Call customer service at 555-555-5501 for more information</p>
</div>
```



# HTML basics

## HTML5 – semantic tags

- divs can't express their content
  - Use *id* or *class* to overcome this
- article
  - Contains complete, independent composition of an idea like **blog post or main text of the page**
- header
  - At the top of the page. Banner, navigation menu, page title and logo
- section
  - Grouping of related content
- aside
  - Sidebar like in print magazine
- footer
- nav
- figure, figcaption

# HTML basics



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## HTML layout demo

- Two columns
- Banner on top (**<header>**)
- Menu (**<nav>**)
- Left column for main content
  - **<Article>** and **<section>**
- Right column as sidebar
  - **<aside>** and **<section>**
- **<footer>** on bottom

The screenshot displays a website layout for "cafesoylentgreen". The header features a green navigation bar with the restaurant's name, a logo, and links for "Menu", "Events", "About Us", and "Hours & Directions". A "MAKE A RESERVATION" button is also present. The main content area is divided into two columns. The left column contains sections for "About Us", "Our History", and "Our Founders", each with placeholder text. It also includes an image of a chef preparing food. The right column contains sections for "Upcoming Events" (listing March 3rd, 7th, and 12th), "This Week's Specials" (with images of dishes like meat and salad), and a footer copyright notice.

cafesoylentgreen

Menu Events About Us Hours & Directions

MAKE A RESERVATION

## About Us

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper.

### Our History

Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Quisque sit amet est et sapien ullamcorper pharetra. Vestibulum erat wisi, condimentum sed, commodo vitae, ornare sit amet, wisi. Aenean fermentum, elit eget tincidunt condimentum, eros ipsum rutrum orci, sagittis tempus lacus enim ac dui. Donec non enim in turpis pulvinar facilisis. Ut felis. Praesent dapibus, neque id cursus faucibus, tortor neque egestas augue, eu vulputate magna eros eu erat. Aliquam erat volutpat. Nam dui mi, tincidunt quis, accumsan porttitor, facilisis luctus, metus.

### Our Founders

Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Quisque sit amet est et sapien ullamcorper pharetra. Vestibulum erat wisi, condimentum sed, commodo vitae, ornare sit amet, wisi. Aenean fermentum, elit eget tincidunt condimentum, eros ipsum rutrum orci, sagittis tempus lacus enim ac dui. Donec non enim in turpis pulvinar facilisis. Ut felis. Praesent dapibus, neque id cursus faucibus, tortor neque egestas augue, eu vulputate magna eros eu erat. Aliquam erat volutpat. Nam dui mi, tincidunt quis, accumsan porttitor, facilisis luctus, metus.

### Our Values

Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Quisque sit amet est et sapien ullamcorper pharetra. Vestibulum erat wisi, condimentum sed, commodo vitae, ornare sit amet, wisi. Aenean fermentum, elit eget tincidunt condimentum, eros ipsum rutrum orci, sagittis tempus lacus enim ac dui. Donec non enim in turpis pulvinar facilisis. Ut felis. Praesent dapibus, neque id cursus faucibus, tortor neque egestas augue, eu vulputate magna eros eu erat. Aliquam erat volutpat. Nam dui mi, tincidunt quis, accumsan porttitor, facilisis luctus, metus.

700 SW 5th Ave, Portland, OR (866) 555-1000  
Monday-Thursday: 7:00 am – 2:00 pm  
Friday-Saturday: 8:00am – 11:00 pm

### Upcoming Events

- March 3rd Iron Chef Night  
Lorem ipsum dolor sat ipsectum solorgo inferiord
- March 7th Learn about high protein plankton  
Lorem ipsum dolor sat ipsectum solorgo inferiord
- March 12th Movie Night  
Lorem ipsum dolor sat ipsectum solorgo inferiord

### This Week's Specials

Lorem ipsum dolor sat ipsectum solorgo inferiord

Lorem ipsum dolor sat ipsectum sologna inferiord

Copyright 2022. The Soylent Corporation



# HTML basics

## HTML – common tags

- Use `<head>` to contain meta data such as
  - `<title>` of the page
  - `<meta>` tags
  - `<script>` for javascript files
  - And for referencing css files with `<link>`
- Use links (`<a>`) for referencing to other web pages
  - `<a href="http://www.somesite.com">link title</a>`
- Use `<img>` for images
  - ``



# HTML basics

## HTML – common tags

- Use `<br>` for line break
- Use `<hr>` for horizontal line
- Use `<strong>` for boldness and `<em>` for emphasized text (italic)
- Use `<mark>` to mark text and `<del>` to mark text as deleted

# HTML basics

## HTML – common tags

- Use heading to distinguish between title importance
  - `<h1>` for the title
  - `<h2>` for sub title
  - And so on

(Keep in mind SEO)





# HTML basics

## HTML – common tags

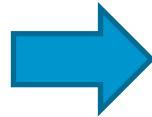
- Use `<p>` for paragraphs of text
- Use unordered list (`<ul>`) for lists of related items

```
<!DOCTYPE html>
<html>
<body>

<h2>Unordered List with Square Bullets</h2>

<ul style="list-style-type:square">
<li>Apples</li>
<li>Bananas</li>
<li>Lemons</li>
<li>Oranges</li>
</ul>

</body>
</html>
```



### Unordered List with Square Bullets

- Apples
- Bananas
- Lemons
- Oranges

# HTML basics

## HTML – common tags

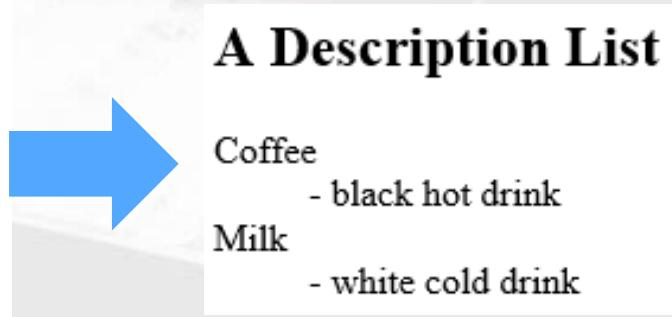
- Use **ordered list** (*<ol>*) for lists of items with sort of order like steps in a process.
  - Each item will be given a running number.
- Use **definition list** *<dl>* with definition term *<dt>* for glossary of terms

```
<!DOCTYPE html>
<html>
<body>

<h2>A Description List</h2>

<dl>
  <dt>Coffee</dt>
  <dd>- black hot drink</dd>
  <dt>Milk</dt>
  <dd>- white cold drink</dd>
</dl>

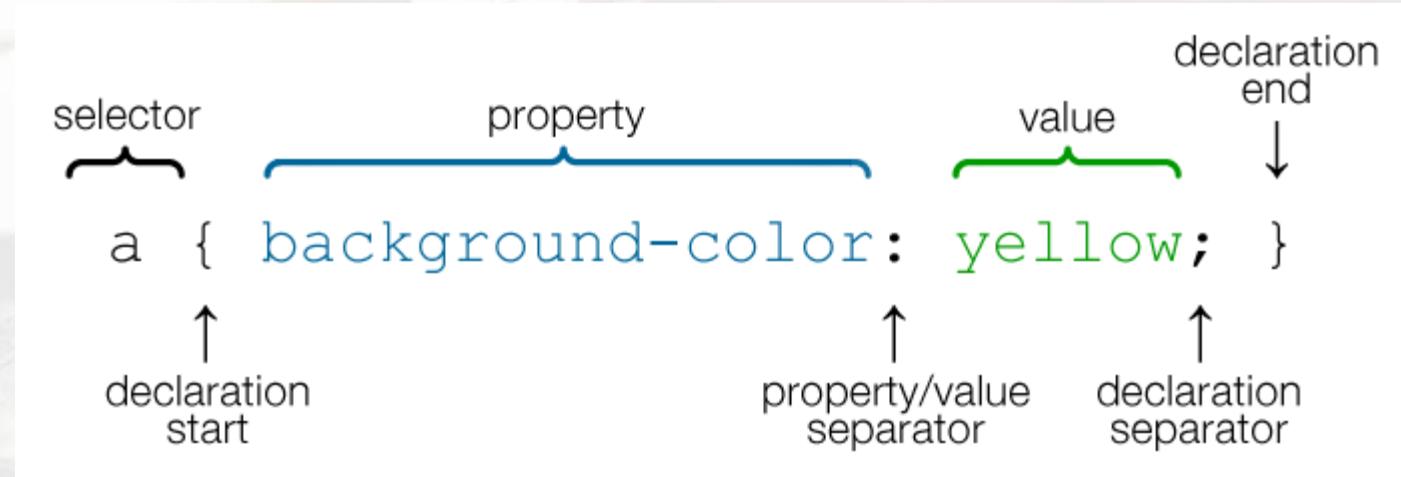
</body>
</html>
```



# CSS basics

## CSS – cascading style sheet

- We've seen by now what is **styling**
- Let's see what **CSS** is basically composed of



# CSS basics

## CSS – internal/external style sheet

- **Internal** style sheet is part of the web page's code, inside `<head>` tag.
- **External** is a file with styles referenced by the web page, again, inside `<head>` tag.



```
<style>
h1 {
  color: #FF7643;
  font-family: Arial;
}
p {
  color: red;
  font-size: 1.5em;
}
</style>
</head>
<body>

<!-- The rest of your page follows... --&gt;</pre>
```

```
<link rel="stylesheet" href="css/styles.css">
```



# CSS basics

## CSS – selectors

- class selector name
  - only letters, numbers, hyphens, and underscores
  - Is case sensitive!

```
.special {  
    color:#FF0000;  
    font-family:"Monotype Corsiva";  
}
```



```
<p class="special">
```

```
<p>Welcome to <span class="companyName">Café Soylent Green</span>, the restaur-  
rant with something a little different.</p>
```

- Id selector
  - Specific html element

```
#banner {  
    background: #CC0000;  
    height: 300px;  
    width: 720px;  
}
```



```
<div id="banner">
```



# CSS basics

## CSS – selectors

- Group selector (combination)
  - All headings with same color
  - Or any combination of valid selectors

```
h1, h2, h3, h4, h5, h6 { color: #F1CD33; }
```

- Universal Selector
  - Selecting every single tag

```
a, p, img, h1, h2, h3, h4, h5 ...yadda yadda... { font-weight: bold; }
```

- All tags that descend from particular element

```
.banner *
```



```
* { font-weight: bold; }
```



# CSS basics

## CSS – descendant selectors

```
li a { font-family: Arial; }
```

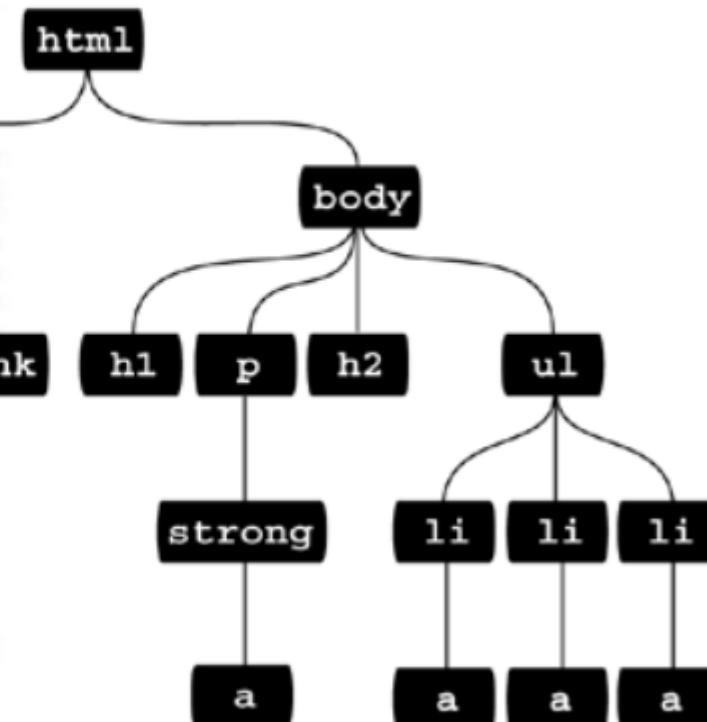


## CosmoFarmer 2.0

Welcome to your online source for apartment farming tips and tricks. Learn about the latest techniques for growing fruit, flowers and herbs in your urban enclosure. We also cover a wide range of topics sure to appeal to the inner gardener in every high-rise dweller. Previous articles included: How To Grow 10 Stories Without The Apartment Manager Finding Out, Irrigation Problems To Your Downstairs Neighbors, and the highest rated article ever on CosmoFarmer.com: "How To Organize the IKEA Way."

### Monthly Columns

- Ask the Experts
- The Cosmo Quiz
- DIY Projects



Valid selectors for the <a> inside <li>

```
ul li a  
body li a  
html li a  
html body ul li a
```



# CSS basics

## CSS – The cascading part

- A tag selector is worth **1 point**.
- A class selector is worth **10 points**.
- An ID selector is worth **100 points**.
- An inline style is worth **1,000 points**.
- The bigger the number, the greater the specificity.
- ``
  - `.highlight { border: 1px black solid; }`
  - `#logo { border: 1px black solid; }`
  - `img { border: 1px black solid; }`

Who wins?



# UI Styling using CSS

## Fonts – font-family

- font-family
- Display fonts installed on client's computer
- You can specify more than 1 font
  - The browser seeks until it reaches installed font

```
p {  
    font-family: Arial;  
}
```

```
font-family: Arial, Helvetica, sans-serif;
```

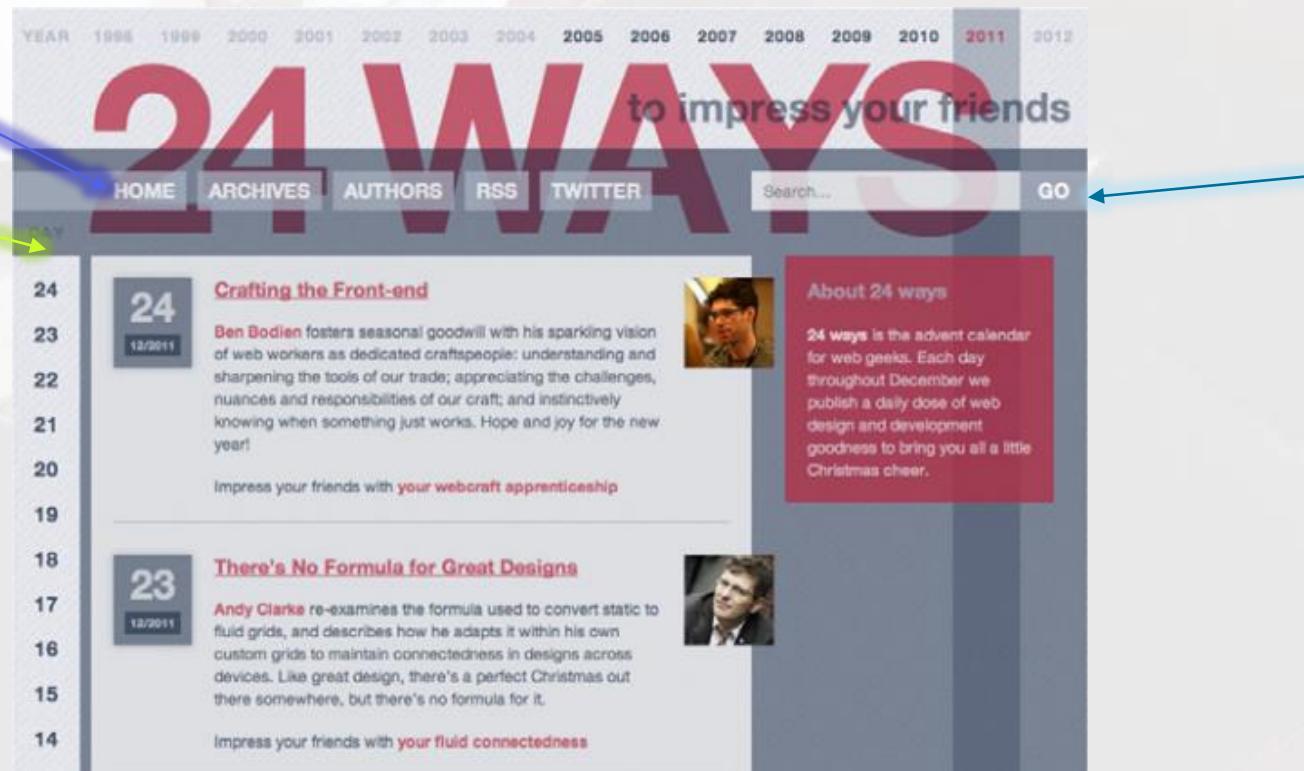
```
font-family: "Times New Roman", Times, serif;
```

- You can use web fonts.
  - Browser downloads so no pre-installed needed

# UI Styling using CSS

## Fonts – font-color

- **Hexadecimal** #6600FF or just #60F
- **rgb** color: *rgb(100%, 100%, 100%)*, *color: rgb(255, 255, 255)*)
- **rgba** color: *rgba(255, 100 ,50, .5)*)
  - works with any property that accepts color value (like background)
  - 0 makes it invisible, 1 is opaque





# UI Styling using CSS

## Fonts – other common properties

- **font-size**
  - 16px=1em
- **font-style**
  - normal | italic | oblique | initial | inherit
- **font-weight**
  - Normal | bold | bolder | lighter | initial | inherit
  - xx-small | x-small | small | medium | large | x-large | xx-large
  - 100 | 200 | 300 |
  - 400 (same as normal) |
  - 500 | 600 |
  - 700 (same as bold) |
  - 800 | 900

```
body {  
    font-family: serif;  
}  
  
p {  
    font-size: 13px;  
}  
  
h2 {  
    font-size: 24px;  
    font-style: italic;  
}  
ul {  
    font-weight: bolder;  
}
```

# UI Styling using CSS



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```
text-shadow: -4px 4px 3px #999999;
```

# Text Shadow

# Text Shadow

```
text-shadow: -4px 4px 3px #999999, 1px -1px 2px #000;
```



# UI Styling using CSS

## Styling lists - <ul> or <ol>

```
list-style-type: square;
```

```
list-style-type: upper-alpha;
```

<b>disc</b> <ul style="list-style-type: none"><li>• item 1</li><li>• item 2</li><li>• item 3</li></ul>	<b>circle</b> <ul style="list-style-type: none"><li>◦ item 1</li><li>◦ item 2</li><li>◦ item 3</li></ul>	<b>square</b> <ul style="list-style-type: none"><li>▪ item 1</li><li>▪ item 2</li><li>▪ item 3</li></ul>
<b>decimal</b> <ol style="list-style-type: none"><li>1. item 1</li><li>2. item 2</li><li>3. item 3</li></ol>	<b>decimal-leading-zero</b> <ol style="list-style-type: none"><li>01. item 1</li><li>02. item 2</li><li>03. item 3</li></ol>	<b>upper-alpha</b> <ol style="list-style-type: none"><li>A. item 1</li><li>B. item 2</li><li>C. item 3</li></ol>
<b>lower-alpha</b> <ol style="list-style-type: none"><li>a. item 1</li><li>b. item 2</li><li>c. item 3</li></ol>	<b>upper-roman</b> <ol style="list-style-type: none"><li>I. item 1</li><li>II. item 2</li><li>III. item 3</li></ol>	<b>lower-roman</b> <ol style="list-style-type: none"><li>i. item 1</li><li>ii. item 2</li><li>iii. item 3</li></ol>

```
li {list-style-type: square; }  
.circle { list-style-type: circle; }
```

```
<ul>  
<li>Item 1</li>  
<li class="circle">Item 2</li>  
<li>Item 3</li>  
<li class="circle">Item 4</li>  
</ul>
```

```
li {list-style-type: square; }  
li:nth-of-type(odd) { list-style-type: circle; }
```



# UI Styling using CSS

## Links

- **a:link**
  - Any link that haven't been visited yet, while the mouse isn't hovering over or clicking it.
- **a:visited**
  - Link that have been clicked before, according browser's history
- **a:hover**
  - Style the look when mouse passes over
  - Not just for links!
    - *p:hover, .highlight:hover*
- **a:active**
  - Styling the click: The time between pressing and releasing the mouse.

```
a:link { color: #F60; }
a:visited { color: #900; }
a:hover { color: #F33; }
a:active {color: #B2F511; }
```

```
.sponsor { font-family: Arial, sans-serif; }
.sponsor:link { color: #F60; }
.sponsor:visited { color: #900; }
.sponsor:hover { color: #F33; }
.sponsor:active {color: #B2F511; }
```

```
nav a { font-family: Arial, sans-serif; }
nav a:link { color: #F60; }
nav a:visited { color: #900; }
nav a:hover { color: #F33; }
nav a:active {color: #B2F511; }
```



# UI Styling using CSS

```
a:link{
    font-family: Arial;
    font-size: 25px;
    text-decoration: none;
    color: #F33;
}

a.button {
    background: #B1B1B1;
    color: #FFF;
    font-weight: bold;
    border-width: 4px;
    border-style: solid;
    border-top-color: #DFDFDF;
    border-right-color: #666;
    border-bottom-color: #333;
    border-left-color: #858585;
}

a.button:active {
    font-size: 24px;
    background: #B1B1B1;
    color: #FFF;
    font-weight: bold;
    border-width: 4px;
    border-style: solid;
    border-top-color: #333;
    border-right-color: #858585;
    border-bottom-color: #DFDFDF;
    border-left-color: #666;
}

a:hover{
    text-decoration: underline;
    font-size: 26px;
    background-image: -ms-linear-gradient(top left, #A1A1A1, #B1B1B1);
}
```



# UI Positioning and Layout

## Layout

The Chia Vet website layout diagram highlights several key components:

- A**: A callout pointing to the "Hotel Chia Vet Opens" section.
- B**: A large image of a hand holding a Chia Pet with green sprouts.
- C**: A callout pointing to the "Compassionate Care" button.

**Header:** Chia Vet. Because every Chia Pet needs a Chia Vet. + Sign up for our newsletter!

**Navigation:** HOME, MEET THE VETS, SERVICES, ABOUT US, DIRECTIONS, CHIA TIPS

**Hero Section:** A large image of a hand holding a Chia Pet with green sprouts. To the right is a green button labeled "Compassionate Care".

**Content Areas:**

- Hotel Chia Vet Opens:** Boarding your Chia pet blur here to come. Place holder greek text. **A** Sed nisi mi, vulputate vel, tristique acinia a, mauris. In hac habitasse platea dictumst. Aliquam suscipit rhoncus turpis. Phasellus cursus. In consequat. [READ MORE>>](#)
- How to Prevent Drycoat:** Sed nisi mi, vulputate vel, tristique acinia a, mauris. In hac habitasse platea dictumst. Aliquam suscipit rhoncus turpis. Phasellus cursus. In consequat. **A** Sed nisi mi, vulputate vel, tristique acinia a, mauris. In hac habitasse platea dictumst. Aliquam suscipit rhoncus turpis. [READ MORE>>](#)
- Meet Our Newest Doc:** Sed nisi mi, vulputate vel, tristique acinia a, mauris. In hac habitasse platea dictumst. Aliquam suscipit rhoncus turpis. **A** Sed nisi mi, vulputate vel, tristique acinia a, mauris. In hac habitasse platea dictumst. Aliquam suscipit rhoncus turpis. [READ MORE>>](#)

**Footer:** I chose Chia Vet for their friendly doctors and great service. -Lucky Case, Owner of Lucy Chia. Make an appointment: (866) 555-1212. 24 Hour Emergency: (866) 555-9111. Copyright 2006, Chia-Vet.com, a division of ChiaPet.com. Chia Pet is a registered trademark of Joseph Enterprises, Inc. Chia-Vet.com, 700 SW 5th Ave, Portland, OR 97204. (866) 555-1000.



# UI Positioning and Layout



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## Box model

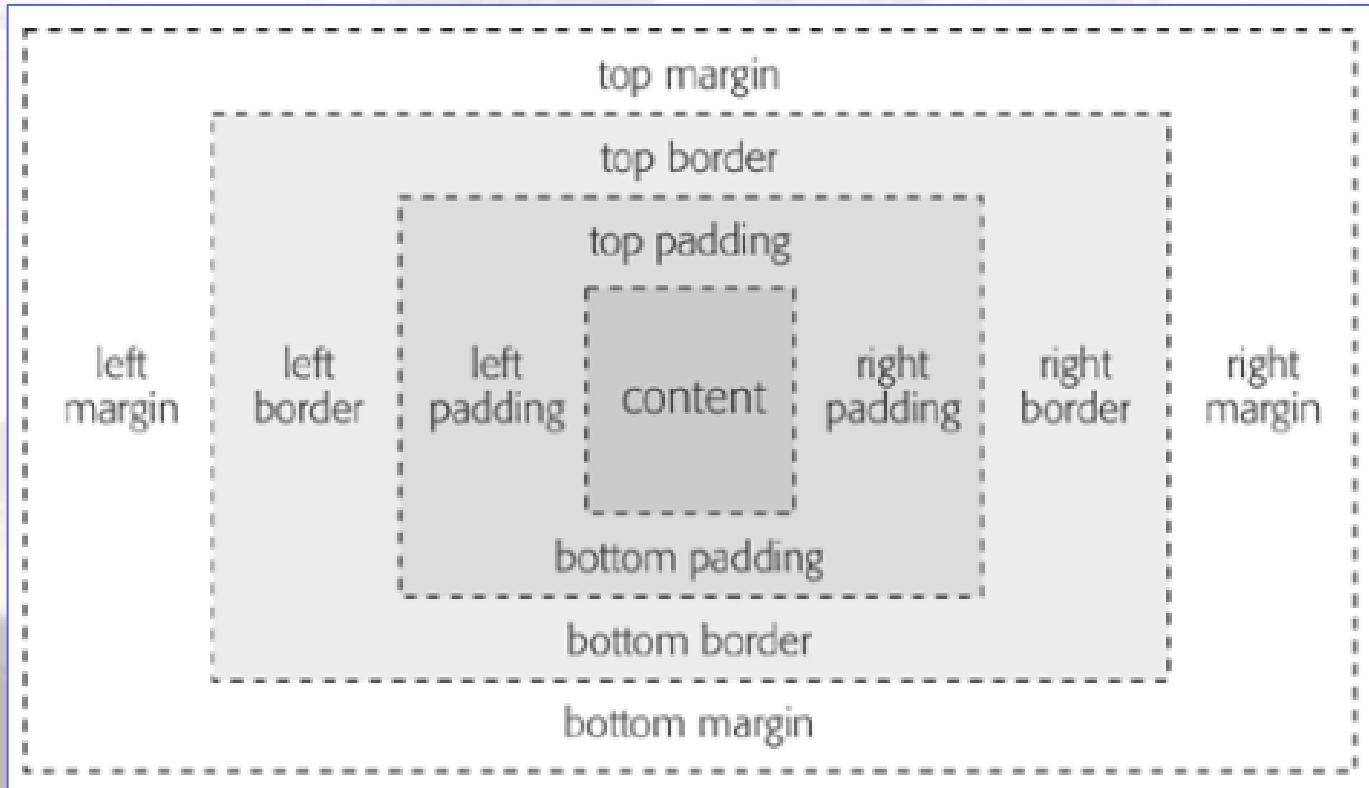
**Any tag is a box with something inside it**

- **padding**
  - The space between the content and the content's border .
- **margin**
  - What separates one tag from another.
- **border**
  - The line around each edge of the box.
- **Background-color**
  - Fills the space inside the border, including the padding area.

# UI Positioning and Layout



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# UI Positioning and Layout

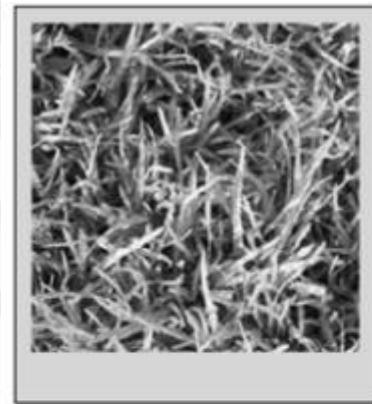


# **G R A U M A N**

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## Box model - examples



### *— border*

> padding

$\vdash \text{margin}$

*Lore ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exercitation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure.*

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**LOREM IPSUM** dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exercitation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure.

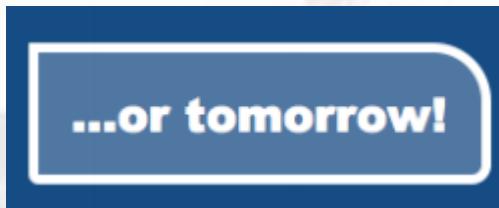


# UI Positioning and Layout

## Box model - borders



`border-radius: 30px;`



`border-radius: 0 30px 10px 5px;`



`border-radius: 40px/20px ;`



# UI Positioning and Layout

## Box model - shadow

```
horizontal offset ————— vertical offset
box-shadow: -4px 6px 8px #000000;
           |           |
           shadow radius   shadow color
```

```
box-shadow: 4px 6px 8px rgba(0,0,0,.75);
```

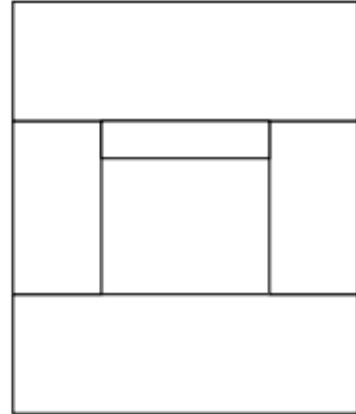
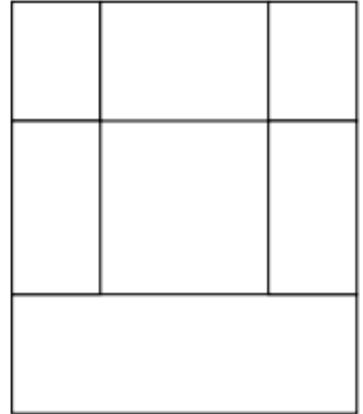
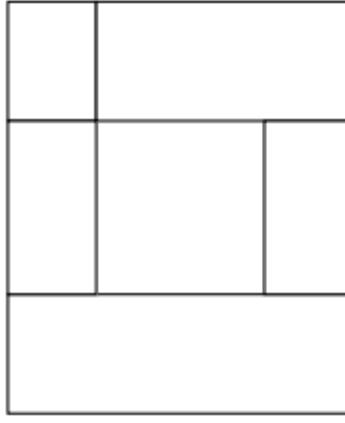
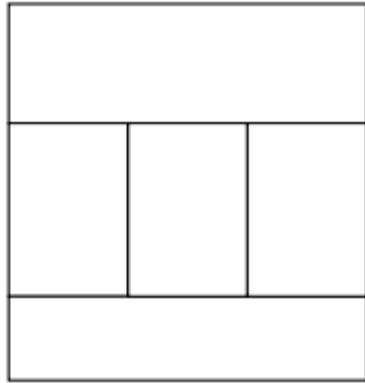
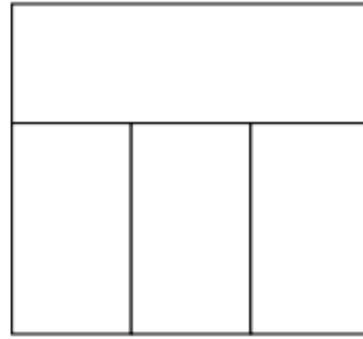
```
box-shadow: -4px -6px 8px 2px rgba(0,0,0,.5),
           8px 6px 12px rgba(0,0,0,.5);
```



# UI Positioning and Layout

## Class Ex – laying out divs

1. For each page:
2. Create main div
3. Other divs inside
4. Style the head internally
5. Other divs externally
6. Color each div



# UI Positioning and Layout



# **G R A U M A N**

---

HI-TECH EXPERT TRAINING

# Box model - floating

## **Regular Page Flow**

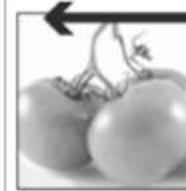
## Right Sidebar

This is a <div> tag that would look better, if it were thinner and aligned to the right edge of the page.



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# The CSS Float Property



A close-up photograph of two ripe red tomatoes with green stems and leaves. The tomatoes are slightly out of focus, creating a soft background. The lighting highlights the texture of the tomato skin and the vibrant red color.

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Right  
Sidebar

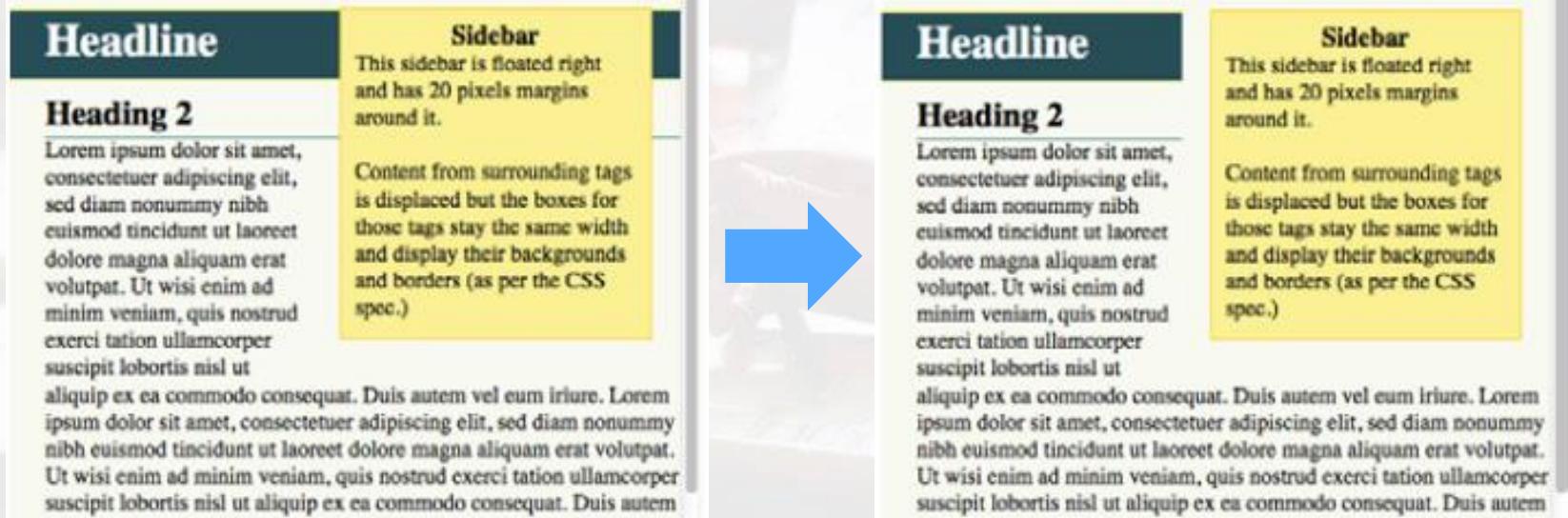
This is a <div> tag  
that's floated right  
and has a set width.

1. Floated elements move to the left or right edge of their containing element
  2. Set width of floated elements, so you control:
    1. How much horizontal space is taken
    2. How much space is available for the content below to wrap around

# UI Positioning and Layout



## Box model – floating with backgrounds and borders



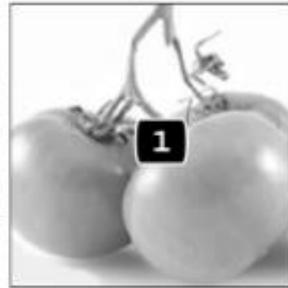
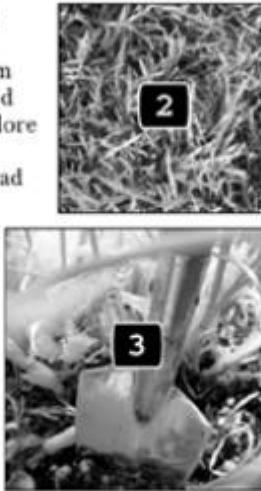
1. The text is wrapped around the floated element, but not the border or background
2. They appear underneath the floated element
3. Use *overflow: hidden*
4. Use *clear: both / left / right* to return to normal

# UI Positioning and Layout

## Box model – floating with backgrounds and borders

### Floats Bumping Into Each Other

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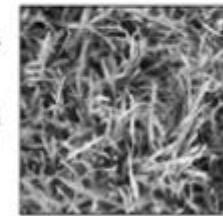


### Floats Cleared

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Use `clear: both / left / right` to return to normal



# Styling navigation element

## nav

```
<ul class="nav">
<li><a href="index.html">Home</a></li>
<li><a href="news.html">News</a></li>
<li><a href="reviews.html">Reviews</a></li>
</ul>
```

- [Home](#)
- [News](#)
- [Reviews](#)

```
ul.nav {
  margin-left: 0px;
  padding-left: 0px;
  list-style: none;
  border-bottom: 1px dashed #000;
}
```

[Home](#)  
[News](#)  
[Reviews](#)



# Styling navigation element

## nav

```
.nav li{  
display: inline;  
text-align: center;  
}
```

[Home](#) [News](#) [Reviews](#)

```
.nav a {  
display: inline-block;  
border: 1px dashed #000;  
border-bottom: none;  
padding: 5px 15px 5px 15px;  
background-color: #EAEAEA;  
text-decoration: none;  
color: #333;  
width: 4em;  
}
```

[Home](#) [News](#) [Reviews](#)



Style the following table as follows:

1. Widen 2 first columns: the first 100px and the second 200px
2. Each even row will be colored gray
3. Center the numbers in the last 3 columns
4. Make the font in the last 2 rows italic
5. Give th table header row a blueish color
6. Center the headers of the first 2 columns

Day	Weather	Max. Day (°C)	Min. Night (°C)	Wind (mph)
Sun	Sunny	18	14	8
Mon	Grey Cloud	12	8	5
Tue	Grey Cloud	14	10	12
Wed	Heavy Rain	8	4	7
Thu	Sunny	17	13	8

# Sorts of stylings – inline, internal and external



**G R A U M A N**  
THE TECH EXPERT TRAINING

We'll try to avoid as much as possible using inline styles as attributes (`style="..."`), but (almost most of the time) an external styles in their own files with .css extension.

Here's an example of internal and external styles:

```
<head>
  <style>
    p {
      color: blue;
      font-size: 1.2em;
    }
  </style>

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



So, the term Cascading is used to determine which style will be executed.

Take for example that you have this element

```
<p style="color: red">. . .</p>
```

Now, if you have internal and external styles with the same rules, but with different color, how can the browser determine which to apply?

1. Inline – The ‘strongest’
2. Internal – Less strong
3. External – Weakest

The closer you’re to the element, the better change you’ll win.

But there’s more to that of course. For now, it’ll suffice.



Create HTML page to get student details:

**Name, Age, Phone, Email, Birth Date,**

**Gender** (Female/Male) - use radio buttons (self learn),

**Course** (One of: Math, Computers, Philosophy, Buddhism)

Add a Save button, that when clicked, call your function which gathers all the data into an object.

You should show error messages if data isn't valid.

Add a Show button, that when clicked, show all the data you gathered earlier.

Use external styling.

[Div+H1]

# Add Student Details

[Div+form]

[required]

Name  [Div+label+input]

[required]

Age (70)  [range, 18 to 120]

Phone  [phone]

Email  [email]

Birth Date  [date]

Gender  Female  Male

[required]

Course

**SAVE!**

1. Use external css
2. Use css selectors
3. When range is used, update the value as shown (70).
4. Range default to 70
5. Email should be valid
6. Courses are:
  - Math (value 1)
  - Computers (2)
  - Philosophy (3)
  - Buddhism (3)
7. Submit button text is 'save', but capitalize it with css to 'SAVE'!

Similar to last exercise, create this form

## Add Student Details

First Name

Last Name

Age

Gender  Female  Male

Course

Hobbies  Movies  Surfing  Lego  Gmara  Cooking

**Save**

First Name	Last Name	Age	Gender	Course	Hobbies
------------	-----------	-----	--------	--------	---------



**GRAUMAN**  
HI-TECH EXPERT TRAINING

Clicking Save validates inputs like this

## Add Student Details

First Name  \*

Last Name  \*

Age  \*

Gender  Female  Male \*

Course  \*

Hobbies  Movies  Surfing  Lego  Gmara  Cooking

**Save**

**First Name** **Last Name** **Age** **Gender** **Course** **Hobbies**



**GRAUMAN**  
HI-TECH EXPERT TRAINING

Filling out all details and pressing Save

## Add Student Details

First Name Shahar

Last Name Grauman

Age  (35)

Gender  Female  Male

Course React

Hobbies  Movies  Surfing  Lego  Gmara  Cooking

**Save** **Show** **Reset**

First Name	Last Name	Age	Gender	Course	Hobbies
------------	-----------	-----	--------	--------	---------



**GRAUMAN**  
HI-TECH EXPERT TRAINING

Pressing Show button inserts the details to the table

## Add Student Details

First Name: Shahar

Last Name: Grauman

Age: 35

Gender: Male

Course: React

Hobbies: Movies, Lego

**Save**   **Show**   **Reset**

First Name	Last Name	Age	Gender	Course	Hobbies
Shahar	Grauman	35	Male	React	Movies, Lego

Pressing Reset – resets all inputs to the very beginning

## Dynamic HTML Exercise

Add

Reset

Pressing Add

## Dynamic HTML Exercise

Add

Reset

Entering a number and pressing Add

## Dynamic HTML Exercise

9

+

=

Add

Reset

Entering 17 and pressing =

## Dynamic HTML Exercise

9

+

17

=

Add

Reset





Pressing Reset

## Dynamic HTML Exercise

Add

Reset

$$1. \ 9 + 17 = 26$$

Adding another equation

## Dynamic HTML Exercise

1

+

2

+

3

+

4

=

Add

Reset

$$1. \ 9 + 17 = 26$$

$$2. \ 1 + 2 + 3 + 4 = 10$$

# FLEXBOX

Flexbox is a new way for laying out UI elements.

```
.container {  
    display: flex;  
    border: 1px solid;  
}  
  
.container > div {  
    background-color: gray;  
    width: 50px;  
    height: 50px;  
    margin: 5px;  
    text-align: center;  
}
```



**GRAUMAN**  
HI-TECH EXPERT TRAINING

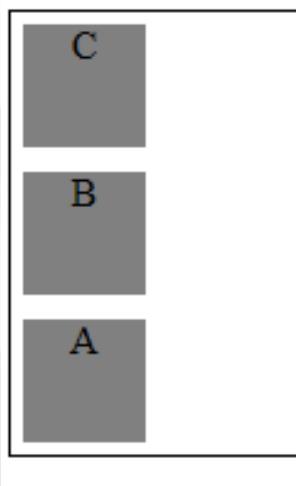




*flex-direction: column;*

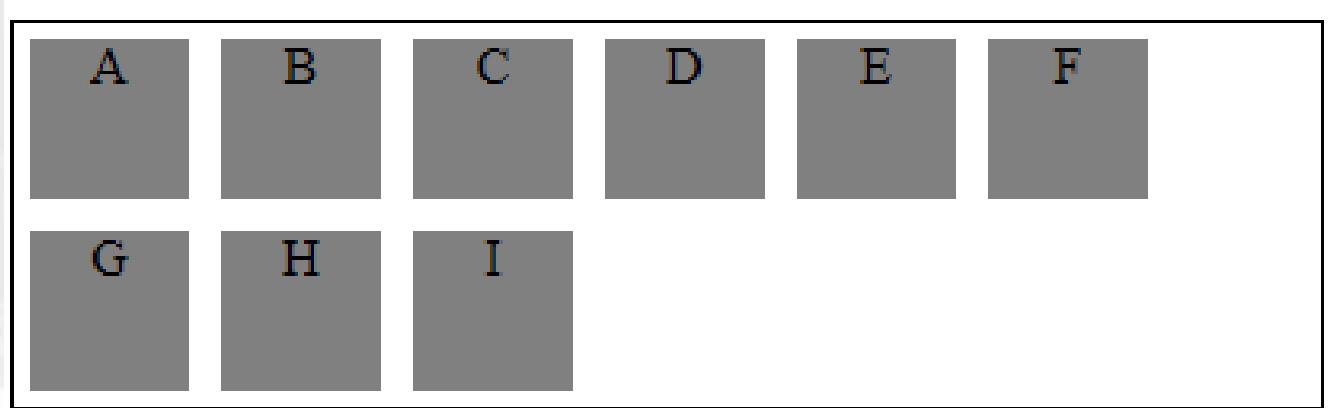


*flex-direction: column-reverse;*



*flex-wrap: wrap;*

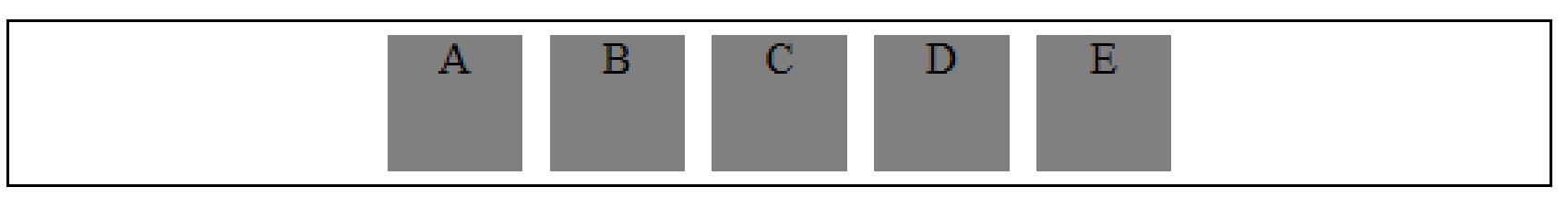
(And wrap-reverse)



**GRAUMAN**  
HI-TECH EXPERT TRAINING

*justify-content: center;*

(And flex-start, flex-end, space-around, space-between)

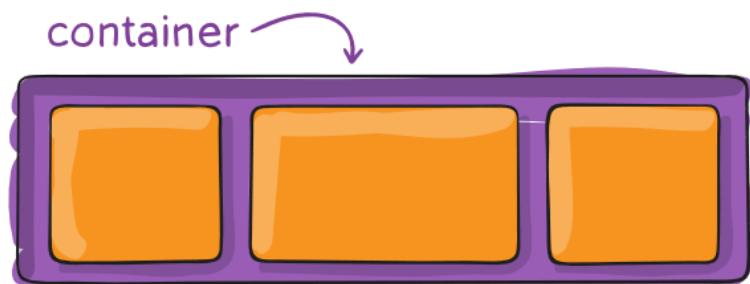


`align-items: center;`

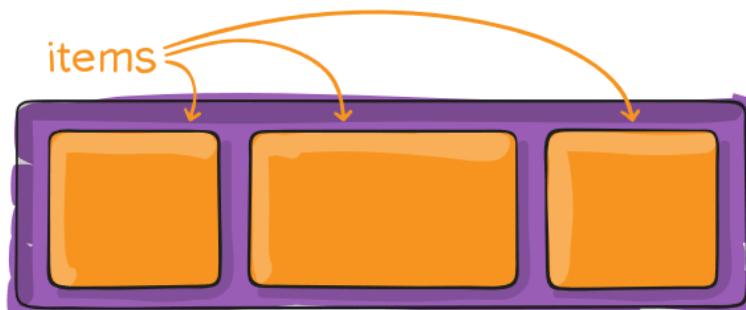
Will align vertically  
center,  
flex-start (to the top),  
flex-end (to the bottom),  
baseline (according their baseline)



**GRAUMAN**  
HI-TECH EXPERT TRAINING



**Properties for the Parent  
(flex container)**



**Properties for the Children  
(flex items)**

There are more of course.

A good summary is <https://css-tricks.com/snippets/css/a-guide-to-flexbox/>

# CSS3 enhancements

## gradients

```
div {  
    height: 100px;  
    background-color: red;  
    background-image: linear-gradient(red, yellow);  
}
```



```
div {  
    height: 100px;  
    background-color: red;  
    background-image: linear-gradient(to top right, red, yellow);  
}
```



# CSS3 enhancements

## gradients

```
div {  
    height: 100px;  
    background-color: red;  
    background-image: linear-gradient(to right,  
        red, #f06d06, rgb(255, 255, 0), green);  
}
```



```
div {  
    height: 100px;  
    background-color: red;  
    background-image: linear-gradient(to right,  
        red, rgb(255, 255, 0) 30%);  
}
```



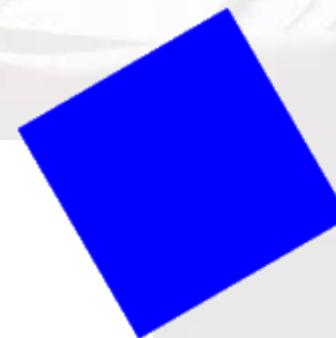


# CSS3 enhancements

## 2d transforms

**Rotate** clockwise (negative value counter clockwise)

```
div {  
    background-color:blue;  
    width:100;  
    height:100px;  
    -ms-transform: rotate(30deg); /* IE 9 */  
    -webkit-transform: rotate(30deg); /* Chrome, Safari, Opera */  
    transform: rotate(30deg);  
}
```



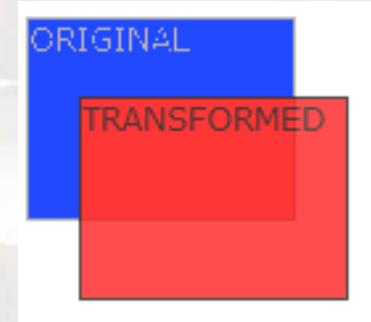


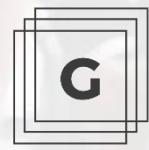
# CSS3 enhancements

## 2d transforms

**Translate** moves from its current position (left, top)

```
div {  
    -ms-transform: translate(50px,100px) ;  
    -webkit-transform: translate(50px,100px) ;  
    transform: translate(50px,100px) ;  
}
```





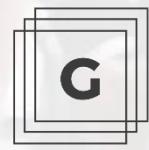
# CSS3 enhancements

## 2d transforms

**Scale** transforms the (width, height)

```
div {  
    -ms-transform: scale(2,0.5);  
    -webkit-transform: scale(2,0.5);  
    transform: scale(2,0.5);  
}
```





# CSS3 enhancements

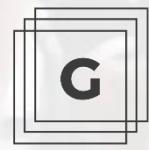
## 2d transforms

**Skew** give an angle around (x-axis, y-axis) יונן (horizontal, vertical)

```
div {  
    transform: skew(20deg);  
}
```

```
div {  
    transform: skew(0deg, 20deg);  
}
```





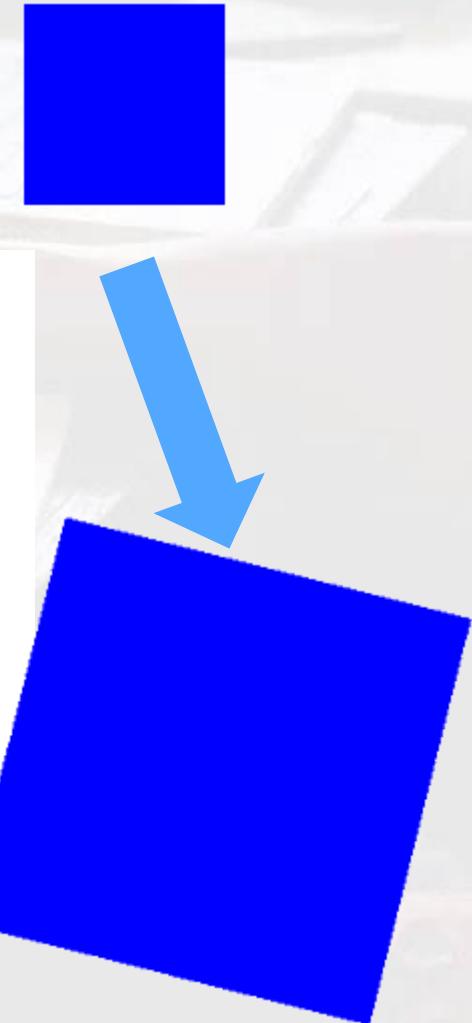
# CSS3 enhancements

## Transitions

Changing from one style to another

1. *Specify the css property to add effect to*
2. *Duration of the effect*

```
div {  
    background-color:blue;  
    width:100;  
    height:100px;  
    transition: width 2s, height 2s, transform 2s;  
}  
  
div:hover{  
    width: 300px;  
    height: 300px;  
    transform: rotate(20deg) ;  
}
```

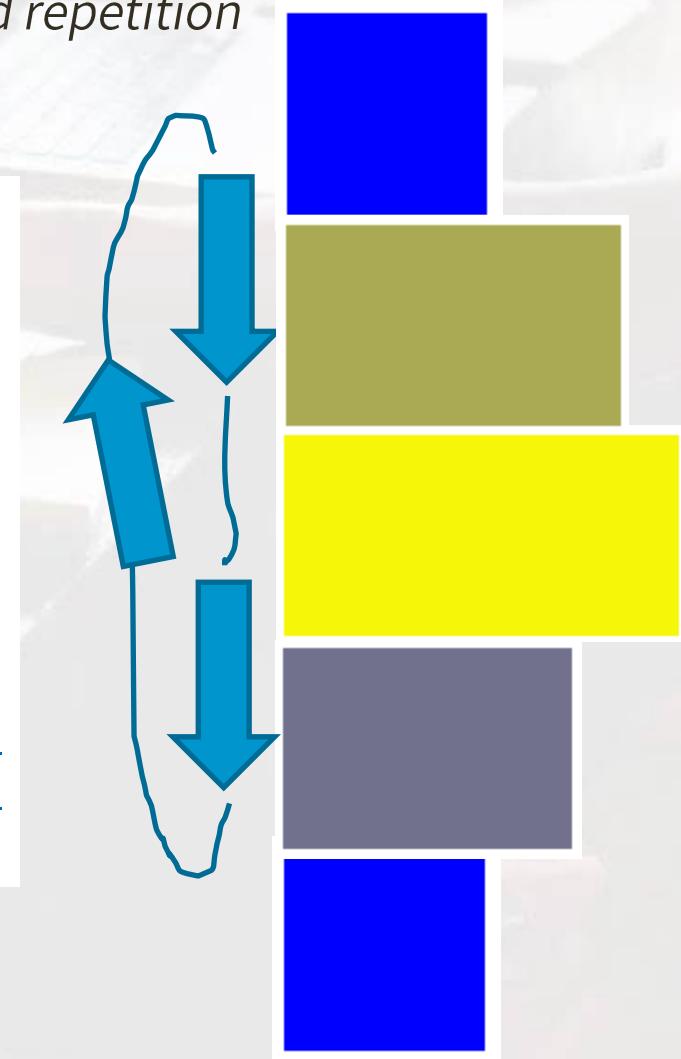


# CSS3 enhancements

## Animation

1. Specify the name of the animation, duration and repetition
2. Create a @keyframes

```
div {  
    background-color:blue;  
    width:100;  
    height:100px;  
    animation: toggleColorWidth 2s infinite;  
    animation-timing-function: ease;  
    animation-direction: alternate-reverse;  
}  
  
@keyframes toggleColorWidth{  
    from{ background-color: blue; width: 100px; }  
    to { background-color: yellow; width: 200px; }  
}
```





# Cross Browsers Techniques

Reset CSS – always include a CSS reset in your stylesheet

```
html, body, div, ul, ol, li, dl, dt, dd, h1, h2, h3, h4, h5, h6,  
pre, form, p, blockquote, fieldset, input, hr {  
    margin:0; padding:0;  
}  
h1, h2, h3, h4, h5, h6, pre, code, address, caption, cite,  
code, em, strong, th {  
    font-size:1em; font-weight:normal; font-style:normal;  
}  
ul, ol {  
    list-style:none;  
}  
fieldset, img, hr {border:none;}  
caption, th {text-align:left;}  
table {border-collapse:collapse; border-spacing:0;}  
td {vertical-align:top;}
```



# Cross Browsers Techniques

## IE6/7/8 to understand HTML5

```
<!--[if lt IE 9]>
<script
src="//html5shiv.googlecode.com/svn/trunk/html5.js">
</script>
<![endif]-->
```

- IE 8 and earlier don't recognize new HTML5 tags
- Only IE6/7/8 respond to that **conditional comment** and uses this javascript



# Bootstrap

Sleek, intuitive, and powerful front-end framework for faster and easier web development.

[Download Bootstrap](#)

[GitHub project](#)   [Examples](#)   [Extend](#)   Version 2.3.2

- All you're CSS needs in one place
- Looks good
- Responsive
- Supports all browsers



# Hypertext Transfer Protocol (HTTP)

**HTTP is:**

## 1. Connectionless:

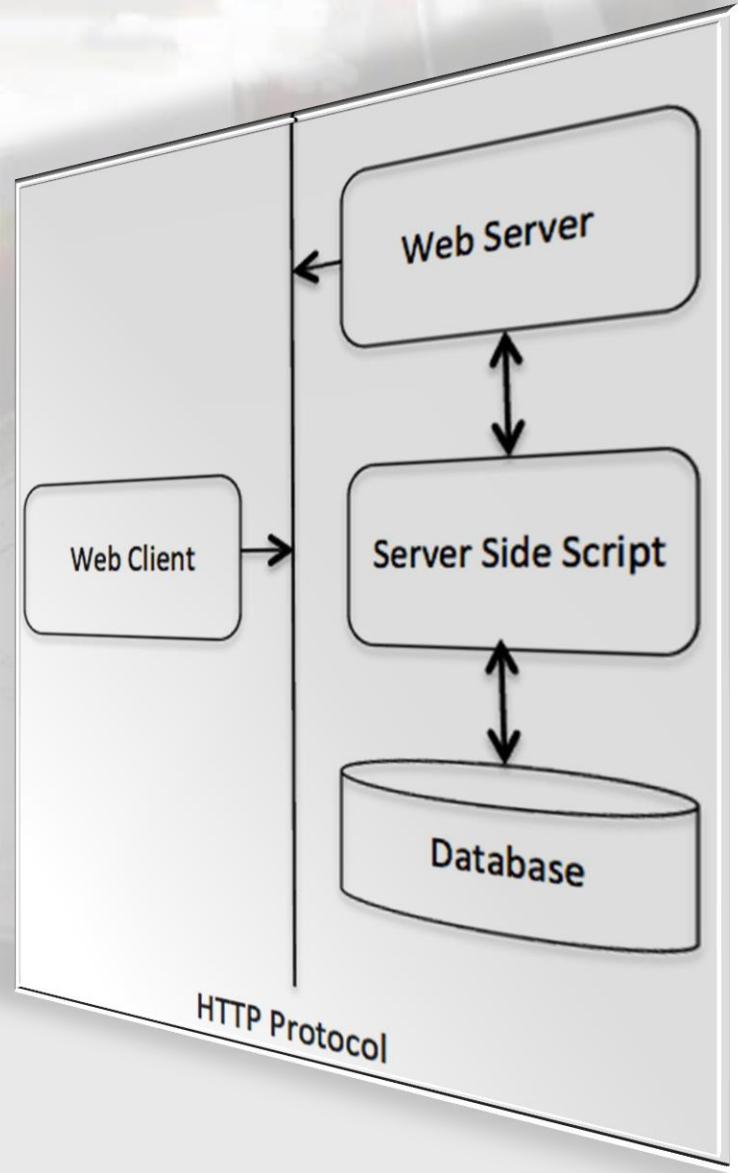
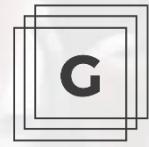
- The HTTP client (For example - browser) initiates an HTTP request
- After a request is made, the client disconnects from the server and waits for a response.
- The server processes the request and re-establishes the connection with the client to send a response back.

## 2. Stateless:

- The server and client are aware of each other only during a current request. - Afterwards, both of them forget about each other.
- Neither the client nor the browser can retain information between different requests across the web pages.

## 3. Media independent:

- Any type of data can be sent by HTTP
- Both the client and the server should know how to handle the data content.
- It is required for both the client and the server to specify the content type using appropriate MIME-type.





# Hypertext Transfer Protocol (HTTP)

## Uniform Resource Identifier

**http:// {host} {:port } { path {? query params} }**

1. simply formatted
2. case-insensitive
3. Default port is 80

URL	Status	Domain	Size	Remote IP
GET www.walla.co.il	200 OK	walla.co.il	28.7 KB	212.25.69.151:80
Headers Response HTML Cookies				
Response Headers				
<b>Connection</b>	keep-alive			
<b>Content-Encoding</b>	gzip			
<b>Content-Length</b>	29371			
<b>Content-Type</b>	text/html			
<b>Date</b>	Tue, 06 Oct 2015 06:15:41 GMT			
<b>P3P</b>	policyref="http://www.walla.co.il/w3c/p3p.xml", CP="NOI DSP COR NID CURA TAIs OUR IND UNI COM N			
<b>Vary</b>	Accept-Encoding			
<b>X-UA-Compatible</b>	IE=edge			
Request Headers				
<b>Accept</b>	text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8			
<b>Accept-Encoding</b>	gzip, deflate			
<b>Accept-Language</b>	he,en-US;q=0.7,en;q=0.3			
<b>Cache-Control</b>	max-age=0			
<b>Connection</b>	keep-alive			
<b>Cookie</b>	utma=183361440.482232126.1438597819.1443164859.1444112120.6; utmz=183361440.1438597819.1.1.			



# Hypertext Transfer Protocol (HTTP)

## Request Methods – The most used

### 1. GET

Retrieve information from the given server

Should **only retrieve data** and should have no other effect on the data

### 2. POST

Send data to the server, using HTML forms or JavaScript

### 3. PUT

Add/Replace the current resource with the uploaded content

### 4. DELETE

Removes the current resource given by URI

```
GET /hello.htm HTTP/1.1
User-Agent: Mozilla/4.0 (compatible; MSIE5.01; Windows NT)
Host: www.tutorialspoint.com
Accept-Language: en-us
Accept-Encoding: gzip, deflate
Connection: Keep-Alive
```

```
POST /cgi-bin/process.cgi HTTP/1.1
User-Agent: Mozilla/4.0 (compatible; MSIE5.01; Windows NT)
Host: www.tutorialspoint.com
Content-Type: application/x-www-form-urlencoded
Content-Length: length
Accept-Language: en-us
Accept-Encoding: gzip, deflate
Connection: Keep-Alive
```

licenseID=string&content=string&/paramsXML=string



# Hypertext Transfer Protocol (HTTP)

## Response – Status code

**1xx**

The request was received and the process is continuing

**2xx**

The action was successfully received, understood, and accepted

**3xx**

Further action must be taken in order to complete the request

**4xx**

The request contains incorrect syntax or cannot be fulfilled

**5xx**

The server failed to fulfill an apparently valid request

HTTP/1.1 404 Not Found

Date: Sun, 18 Oct 2012 10:36:20 GMT

Server: Apache/2.2.14 (Win32)

Content-Length: 230

Connection: Closed

Content-Type: text/html; charset=iso-8859-1

```
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">
<html>
<head>
  <title>404 Not Found</title>
</head>
<body>
  <h1>Not Found</h1>
  <p>The requested URL /t.html was not found on this server.</p>
</body>
</html>
```



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# THANK YOU

HAVE A NICE DAY!

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