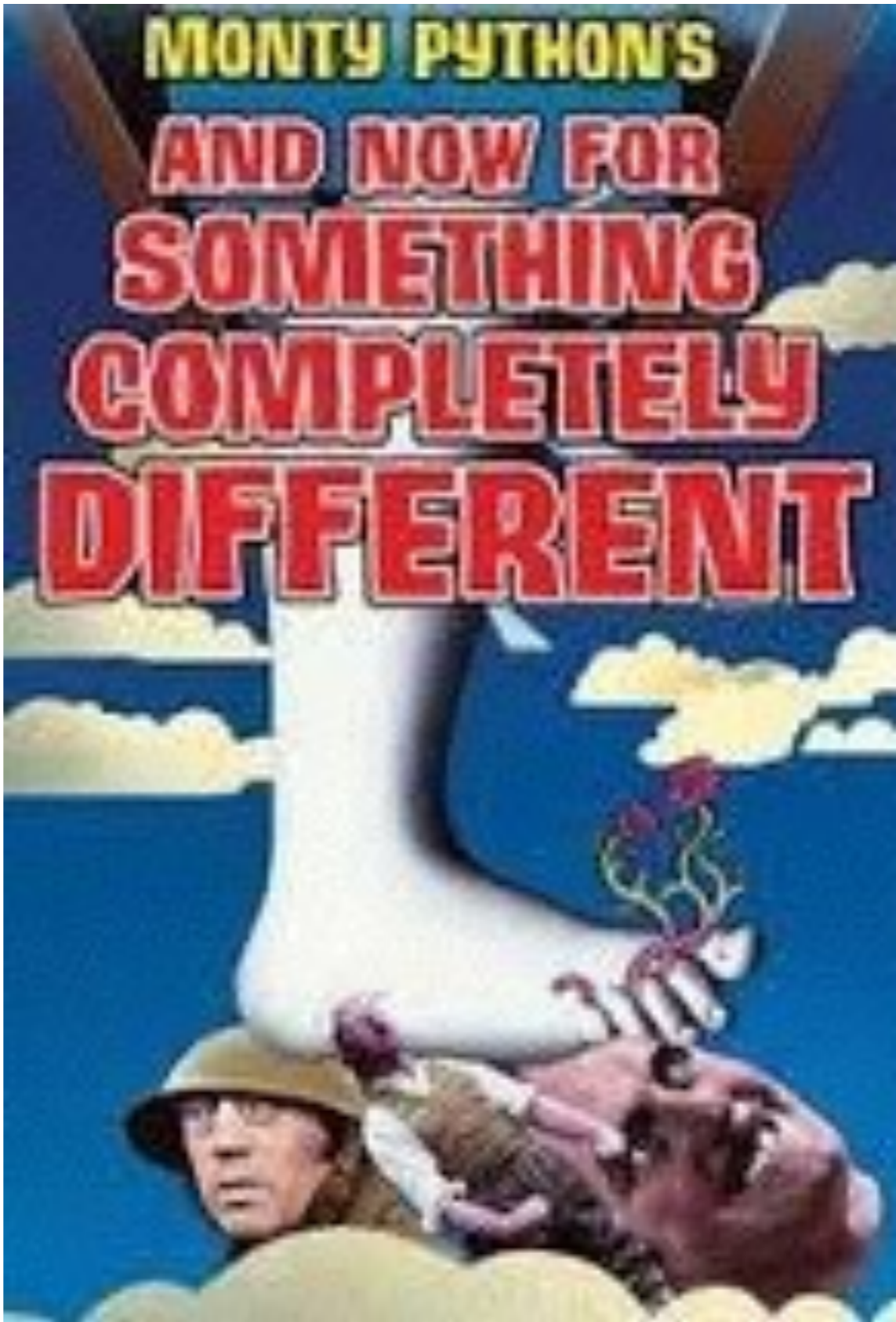


Web-page design with HTML/css

MONTY PYTHON'S
AND NOW FOR
SOMETHING
COMPLETELY
DIFFERENT



Computer languages

Programming languages:

asm, C, C++, Java, Python, Ruby, Javascript, PHP, SQL

Implement **algorithms** that generate or operate on data, using loops, functions, variables,...

Descriptive languages:

HTML, CSS, data-base description languages

Organize **data** or information.

Why not use Javascript etc to organize data? Arrays, strings,...

Fetching pages

- server 1. I have a Word document (.doc)
- client 2. You send me an e-mail requesting the document.
- server 3. I send you an e-mail including the document.
- client 4. You use Word to view the document.

- server 1. A server has a document (.html)
- client 2. You use your browser to request the document
- server 3. The server sends a message to your computer including the document.
- client 4. You use your browser to view the document.

Why coders hate Word: content vs. style

1 RUDGWICK STE 4 ENTRIES/CAMP 6 2013 SHOW PIC 8 2011 SHOW PIC 12 PICS RUDGWICK 15 SHOW PICTUR

PRESENTING OUR 28th ANNUAL SHOW 17:27:55
344019 VISITORS

WELCOME TO OUR WEBSITE....

GREAT BRITISH ENGINEERING AT ITS BEST A REAL FAMILY PACKED COUNTRY SHOW WITH SO MUCH TO SEE & DO!

46 days to go

28th RUDGWICK COUNTRY SHOW

THE COUNTRY SHOW WITH A BIG DIFFERENCE

SAT - SUN - MON
AUGUST BANK HOLIDAY WEEKEND

VIEW ALL OF GREAT FUN FOR KIDS!
OUTSIDE CATERING PLOTS AVAILABLE

email: chanaburi1@aol.com

SEE ALL THE PICTURES & SLIDESHOW'S OF PREVIOUS YEARS

BRITISH CARVER THE NEW FOREST HALL

HTML describes content

You write:

```
i 1 <h1> The Constitution of the United States </h1>
  2
  3 <p> We the People of the United States, in Order to form a
    more perfect Union, establish Justice, insure domestic
    Tranquility, provide for the common defence, promote the
    general Welfare, and secure the Blessings of Liberty to
    ourselves and our Posterity, do ordain and establish this
    Constitution for the United States of America.</p>
```

Tag pair



Browser displays:

The Constitution of the United States

We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

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Header tags: h1..h6

```
i 1 <h2> Article. I. </h2>
  2 <h3> Section. 1. </h3>
  3
  4 <p> All legislative Powers herein granted shall be vested in a
    Congress of the United States, which shall consist of a
    Senate and House of Representatives.</p>
```

Article. I.

Section. 1.

All legislative Powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives.

Exercise: headers

<h1> The Constitution of the United States </h1>

<p> We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.</p>

<h2> Article. I. </h2>

<h3> Section. 1. </h3>

<p>All legislative Powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives.</p>

<h3> Section. 2. </h3>

<p>The House of Representatives shall be composed of Members chosen every second Year by the People of the several States, and the Electors in each State shall have the Qualifications requisite for Electors of the most numerous Branch of the State Legislature.</p>

Why not use Dreamweaver?

You can.



But understand:

- 1) The building blocks (tags)
- 2) Style vs content
- 3) Clean HTML code

Personally, I prefer to edit HTML directly for the speed. No software to learn, no fonts to choose.

Nested tags

```
1 <p> <strong> We the People of the United States</strong>, in  
i Order to form a more perfect Union, establish Justice,  
insure domestic Tranquility, provide for the common  
defence, promote the general Welfare, and secure the  
Blessings of Liberty to ourselves and our Posterity, do  
ordain and establish this Constitution for the United  
States of America.</p>
```

We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

Malformed HTML: <p> </p>

Complete HTML documents

“This is HTML (5)”

Head, not displayed (SEO)



```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Transcription of the Constitution</title>
5   </head>
6   <body>
7
8     <h1>The Constitution of the United States</h1>
9
10    <p><strong>We the People of the United States</strong>, in Order to form a more
    perfect Union, establish Justice, insure domestic Tranquility, provide for
    the common defence, promote the general Welfare, and secure the Blessings of
    Liberty to ourselves and our Posterity, do ordain and establish this
    Constitution for the United States of America.</p>
11
12  </body>
13 </html>
```

Body, where text goes

HTML validation

<https://validator.w3.org/nu/?doc=http%3A%2F%2Fwww.bloomberg.com%2F>

Lists

Unordered `` (why not call it bullet?)



```
i 1 |<h3>Things to do today: </h3>
  2 |<ul>
  3 |     <li> go to the gym </li>
  4 |     <li> take over the world</li>
  5 |</ul>
```

Things to do today:

- go to the gym
- take over the world

Ordered ``

```
i 1 |<h3>Things to do today: </h3>
  2 |<ol>
  3 |     <li> go to the gym </li>
  4 |     <li> take over the world </li>
  5 |     <ol>
  6 |         <li> learn to code </li>
  7 |         <li> ... </li>
  8 |         <li> profit </li>
  9 |     </ol>
 10 |</ol>
```

Things to do today:

1. go to the gym
2. take over the world
 1. learn to code
 2. ...
 3. profit

Note nesting

Exercise: tables

```
i 1 |<h3>2016 stock closing prices:</h3>
2 |<table>
3 |   <tr>
4 |     <td> </td>
5 |     <th> Feb 10 </th>
6 |     <th> Feb 11 </th>
7 |     <th> Feb 12 </th>
8 |   </tr>
9 |   <tr>
10 |     <th> AAPL </th>
11 |     <td> 93.99 </td>
12 |     <td> 93.70 </td>
13 |     <td> 94.27 </td>
14 |   </tr>
15 |   <tr>
16 |     <th> GOOG </th>
17 |     <td> 684.12 </td>
18 |     <td> 683.11 </td>
19 |     <td> 682.40 </td>
20 |   </tr>
21 |   <tr>
22 |     <th> TSLA </th>
23 |     <td> 143.67 </td>
24 |     <td> 150.47 </td>
25 |     <td> 151.04 </td>
26 |   </tr>
27 | </table>
```

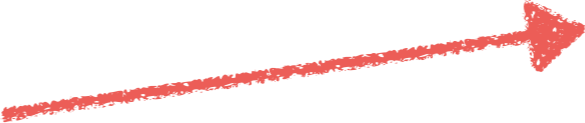
2016 stock closing prices:

| | Feb 10 | Feb 11 | Feb 12 |
|-------------|--------|--------|--------|
| AAPL | 93.99 | 93.70 | 94.27 |
| GOOG | 684.12 | 683.11 | 682.40 |
| TSLA | 143.67 | 150.47 | 151.04 |

Images

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Transcription of the Constitution</title>
5   </head>
6   <body>
7
8     
11
12 </body>
</html>
```



- No closing ``
- `src="https://www...."`  Attributes
- `style="width:128px; height:128px;"`

Wait, style? Isn't it bad to combine style and content?

Links

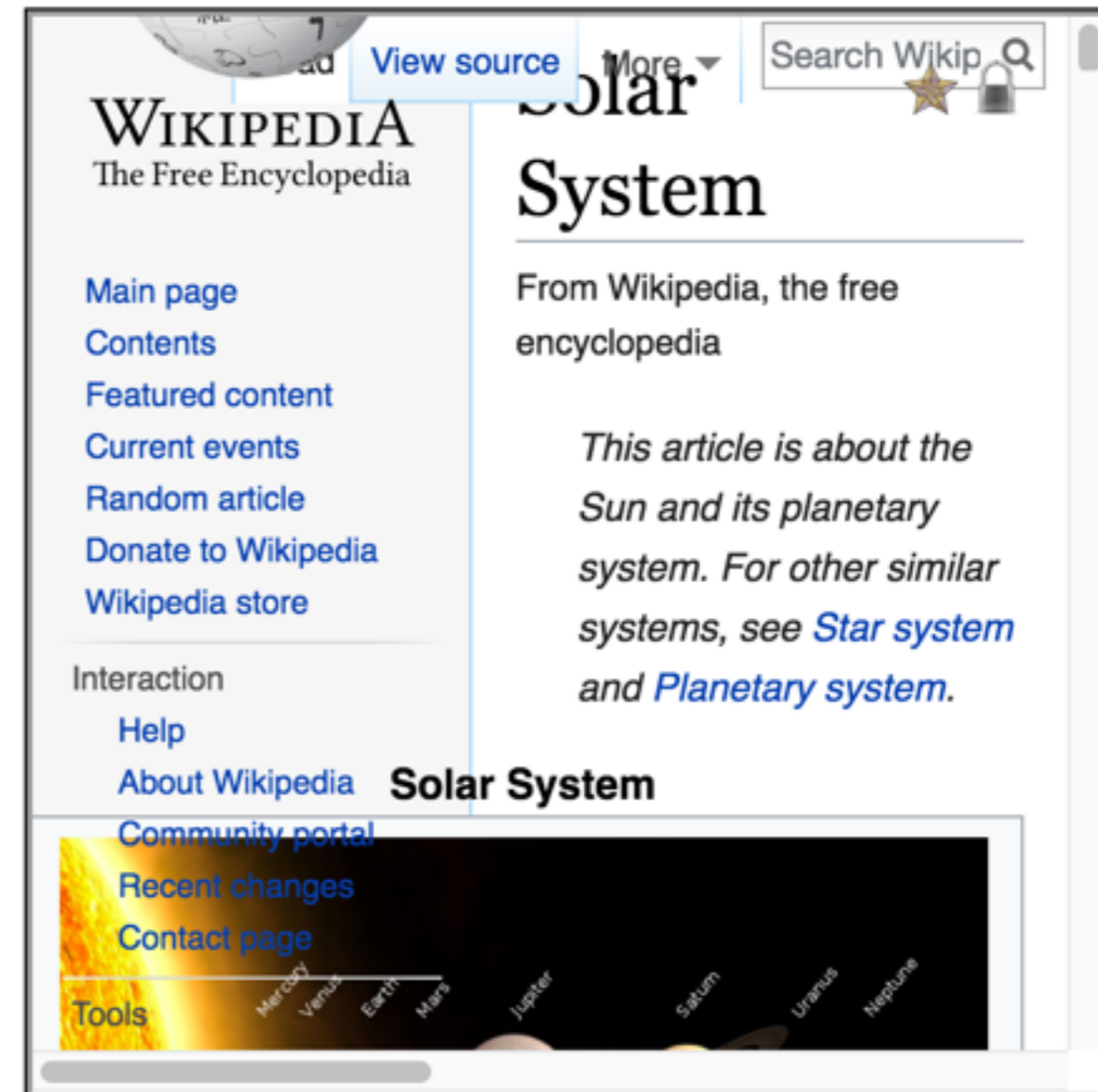
```
i 1 <p> Here is a link to the home page of  
2     <a href="https://www.cs.dartmouth.edu/~devin">Devin  
     Balkcom</a>.  
3 </p>
```

Here is a link to the home page of [Devin Balkcom](https://www.cs.dartmouth.edu/~devin).

href parameter gives target of link.

Exercise: space

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>The final frontier</title>
5 </head>
6 <body>
7
8 <a href="https://en.wikipedia.org/wiki/Solar_System">
9  </a>
11
12 </body>
13 </html>
```



iframes

iframes allow you to embed a web page inside another page

```
1 <iframe width="560" height="315" src="https://www.youtube.com/embed/ZCBE8oc0kAQ?rel=0" frameborder="0" allowfullscreen></iframe>
```

Falcon 9 First Stage Landing | From Helicopter



Who owns your content?

- Where are your `` files stored?
 - What happens if they change? Or disappear?
 - Who pays for bandwidth?
 - Who owns copyright on the site?
- Are you using iframes?
 - Can someone play an ad or control experience?

Style with CSS

CSS

Main idea: changing the style sheet changes the presentation, without changing the content.

Why?

- productivity: focus on content first
- division of labor: content-producers and artists
- adaptability: re-styling is easy

1. **select** some of the tagged regions in an HTML doc.
2. Change the style: **properties** like color, position, etc.

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>Fundamentals of Web Programming</title>
5 <style type="text/css">
6   h1 {
7     color: purple;
8   }
9   body {
10    background-color: orange;
11  }
12 </style>
13 </head>
14 <body>
15
16 <h1>Learn to code</h1>
17
18 <p>This hands-on course will teach the basics of web programming. During the course, you will build both
  -based financial planner and a basic business networking application. By the end of the course you will
  be able to reason effectively about designs for and potential capabilities of web applications. There are no
  prerequisites for the course.</p>
19
20 </body>
21 </html>
```

Style block in head section.
(better: put in separate file)

Learn to code

This hands-on course will teach the basics of web programming. During the course, you will build both a web-based financial planner and a basic business networking application. By the end of the course you will be able to reason effectively about designs for and potential capabilities of web applications. There are no prerequisites for the course.

```
h1 {  
  color: purple;  
}  
body {  
  background-color: orange;  
}
```

```
<selector> {  
  property: value;  
  property: value;  
  property: value;  
}
```

Two things to learn:
1) more interesting selectors
2) some properties

Positioning with float

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>Fundamentals of Web Programming</title>
5 <style type="text/css">
6   img {
7     float: none;
8   }
9 </style>
10 </head>
11 <body>
12
13 <h1> Baboons </h1>
14
15 
16
17 <p> Baboons are African and Arabian Old World monkeys
  belonging to the genus Papio, part of the subfamily
  Cercopithecinae. The five species are some of the
  largest non-hominoid members of the primate order; only
  the mandrill and the drill are larger. Previously, the
  closely related gelada (genus Theropithecus) and the
  two species (mandrill and drill) of genus Mandrillus
  were grouped in the same genus, and these Old World
```

Baboons



Baboons are African and Arabian Old World monkeys belonging to the genus *Papio*, part of the subfamily Cercopithecinae. The five species are some of the largest non-hominoid members of the primate order;

Positioning with float

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>Fundamentals of Web Programming</title>
5 <style type="text/css">
6   img {
7     float: right;
8   }
9 </style>
10 </head>
11 <body>
12
13 <h1> Baboons</h1>
14
15 
16
17 <p> Baboons are African and Arabian Old World monkeys
  belonging to the genus Papio, part of the subfamily
  Cercopithecinae. The five species are some of the
  largest non-hominoid members of the primate order; only
  the mandrill and the drill are larger. Previously, the
  closely related gelada (genus Theropithecus) and the
  two species (mandrill and drill) of genus Mandrillus
  were grouped in the same genus, and these Old World
```

Baboons

Baboons are African and Arabian Old World monkeys belonging to the genus *Papio*, part of the subfamily Cercopithecinae. The five species are some of the largest non-hominoid members of the primate order; only the mandrill and the drill are larger.

Previously, the closely related gelada (genus *Theropithecus*) and the two species (mandrill and drill) of genus *Mandrillus* were grouped in the same genus, and these Old World monkeys are still often referred to as baboons in everyday speech. They range in size and weight depending on species. The Guinea baboon is 50 cm (20 in) and weighs only 14 kg (31 lb), while the largest



Selecting specific items: **id**

selector in CSS chooses labelled item

```
i 1 <style>
2   #redrum_heading {
3     color: red;
4   }
5 </style>
6
7 <h3> Mystery </h3>
8 <h3 id="redrum_heading"> Murder
9   </h3>
10 <h3> Mayhem </h3>
```

Mystery
Murder
Mayhem

Attribute to label an item in HTML
(id attribute, double quotes)

Selecting groups of items: **class**

When the box arrived, it was labelled:

Package contents are fragile. Please handle with care.

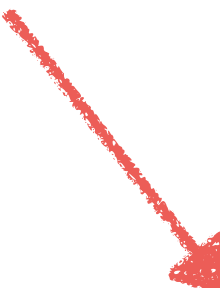

Inside the box was a small, dark wooden box. I opened the box carefully; it contained one Cuban cigar, and a brief note from an ex-lover.

Smoking can be hazardous to your health.

Selecting groups of items: class

. selector in CSS chooses labelled items

```
i 1 <style>
2   .warning {
3     color: red;
4     border: solid 2px black;
5     padding: 5px;
6     text-align: center;
7   }
8 </style>
9
10 <p>When the box arrived, it was labelled:</p>
11 <p class="warning">Package contents are fragile. Please handle with care.</p>
12 <p> Inside the box was a small, dark wooden box. I opened the box carefully; it contained one Cuban cigar, and a
    brief note from an ex-lover. </p>
13 <p class="warning">Smoking can be hazardous to your health.</p>
```



attributes label items in HTML
(class attribute, double quotes)

slicing HTML content:

What if you want to make only **part of a paragraph** red?

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Fundamentals of Web Programming</title>
5   <style type="text/css">
6     .important {
7       color: red;
8     }
9   </style>
10 </head>
11 <body>
12
13 <ol>
14   <li>This hands-on course will teach the basics of web programming. <span class="important"> There are no
      prerequisites for the course.</span> </li>
```

1. This hands-on course will teach the basics of web programming. **There are no prerequisites for the course.**

Exercise: red flying objects

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Fundamentals of Web Programming</title>
5   <style type="text/css">
6
7   </style>
8 </head>
9 <body>
10
11   <p> Some of these iteams are red:</p>
12   <ol>
13     <li>Hummingbird</li>
14     <li>Helicopter parents</li>
15     <li>UFOs</li>
16   </ol>
17
18 </body>
19 </html>
```

Some of these iteams are red:

1. Hummingbird
2. Helicopter parents
3. UFOs

Answer: red flying objects

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Fundamentals of Web Programming</title>
5   <style type="text/css">
6     .flying {color:red;}
7   </style>
8 </head>
9 <body>
10
11   <p> Some of these iteams are red:</p>
12   <ol>
13     <li class="flying">Hummingbird</li>
14     <li>Helicopter parents</li>
15     <li class="flying">UFOs</li>
16   </ol>
17
18 </body>
19 </html>
```

Some of these iteams are red:

1. Hummingbird
2. Helicopter parents
3. UFOs

Example: navbar

Syllabus Schedule Lecture 1

Some HTML that the CSS rules in this document do not be apply to:

- go to the gym
- take over the world
- [learn to code](#)
- ...
- profit

(Go to end of lecture 6 notes)