

Internet Programming

Course Introduction

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Instructor Contact Information

- Email
 - dbrandon@cbu.edu
- Phone
 - 321-3615 (email is better)
- Office
 - ■BU 302
 - Check office door for current physical office hours
 - Some office hours are online, online courses may have all office hours online

Canvas



- Canvas is now used for this course
- Whether this class is in-person, online, or hybrid:
 - All submissions of assignments are to be submitted via Canvas
 - Gradebook is in Canvas
- Canvas contains the syllabus page and the course policies page

Canvas (con't)

Navigation Tip

The left-side navigation menu includes a "Modules" button, which acts as a gateway to learning content and other helpful resources (including Canvas support).

If you are accessing this course from a mobile device, please review the following: Mobile Guides - Canvas Student e



Canvas (con't)

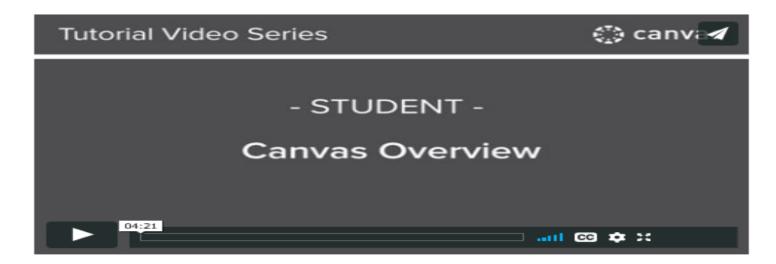
Canvas: Getting Started

The Basics

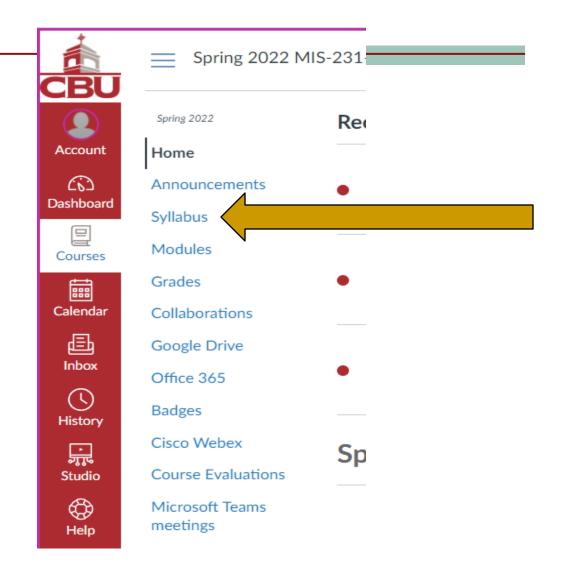
- What are the basic computer specifications for Canvas? @

- How do I get Help?

Canvas Overview



Syllabus in Canvas



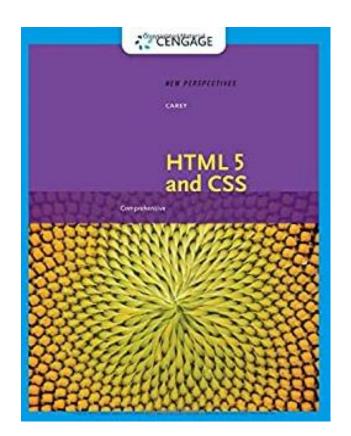
Lesson Files & Multimedia

- Some slides contain video links/lessons (see image below) - make sure your sound is fully enabled
- Videos contain additional information or information presented in another manner, and the videos are generally prepared by industry experts in the field
- For some videos, you may have to hit the browser back or exit button to return to this lesson
- Some videos may require you to enter your session content username/password (supplied to students in class)
- Some videos may have expired or been removed
 - Let instructor know if your encounter this



Textbook

- HTML 5 and CSS
- Patrick Carey
- Latest edition
- Cengage



CBU Follet Access Program

[https://www.cbu.edu/bookstore/follett-access-book-program/]

- Now all CBU class textbook rental and required supplies costs will now be included in a flat-rate "book fee" on your CBU bill so that you know in advance what your costs will be
- The <u>Follett ACCESS Program</u> delivers required materials for the courses for which you're registered, making sure you're prepared for the first day of class
- Students will be charged \$23 per credit hour (Spring 2022 rate) to cover all required course materials
- To make paying for the fee convenient, it can be included in any payment plan you choose
- Typically, students save money with the flat fee based on total credit hours!

CBU Follet Access Program

Follett ACCESS Program



Is Follett ACCESS required for all students?

No, students may choose to opt out of the Follett ACCESS program by <u>clicking here</u>. Please note that you will be prompted to create an account to allow you to opt out. Students wishing to opt out must do so by the last day to add/drop a course to avoid having the "book fee" assessed on their account. When students opt out of Follett ACCESS, they do so for all courses in a given term. Students may not opt out of individual courses.

Follett ACCESS Opt Out



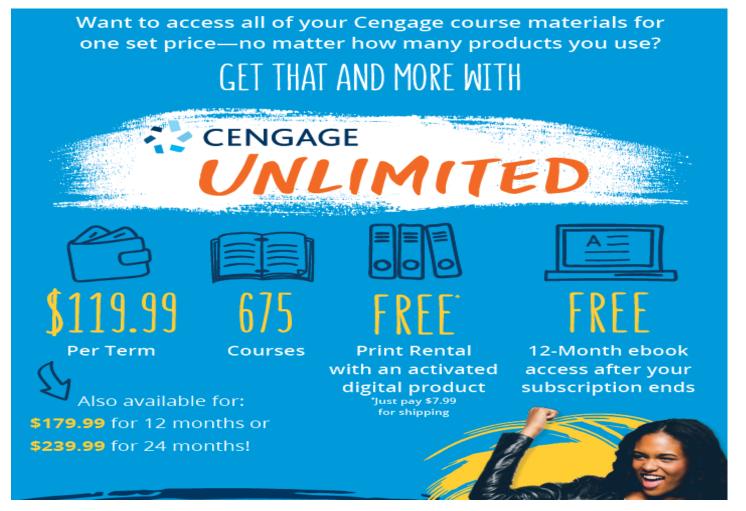
All students are by default enrolled in the Follett ACCESS program and must take action to opt out of the program.

Students who opt out of Follett ACCESS will be responsible for finding their required course materials on their own. You are not under an obligation to purchase your required course materials from the CBU Campus Bookstore or through the Follett ACCESS program, but all materials will be available at the CBU Campus Bookstore.

Cengage Unlimited



Cengage Unlimited (con't)



Cengage Unlimited (con't)

- All that is required of the student for a Cengage Unlimited subscription is to come by the CBU bookstore and choose whether they would like a 4 month (119.99), a 12 month (179.99), or 24 month access (239.99)
- With this access, they will have every book Cengage has ever digitized, which is around 22,000 total titles and about 7800 that Follett currently uses across all US stores
- Even if they are not taking the course the book is being used for, they can still access that title
- All instructors need to do is adopt the book through the bookstore and on the Shelf Tag, it will print the prices for the New and Used Retail, New and Used Rental (If Applicable) the three tiers of Cengage Unlimited, and the eBook only price

Cengage Unlimited eTextbooks



ONLY WANT TEXTBOOKS?

Ask about Cengage Unlimited eTextbooks—the new option including all the benefits of Cengage Unlimited without our learning platforms. Leverage as many textbooks as you want for your class without asking students to pay by-the-book.

STUDENT PRICING OPTIONS

Cengage Unlimited options are available direct to students in campus bookstores and online.



Grading

- **20 % Project 1**
- **20 % Project 2**
- **20 % Project 3**
- ■40 % Homework



Backups

- Students are responsible for backing up their files
- Losing a file (or an USB) is no excuse
- Office 365 OneDrive
- Cloud Providers

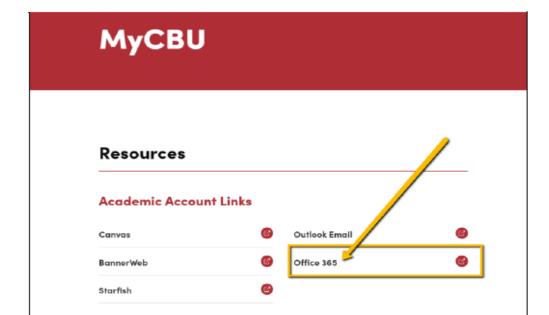


1. What OneDrive Is

OneDrive is a cloud-based storage drive for your CBU files. Your OneDrive is linked to your CBU Microsoft 365 account and password protected behind CBU's single sign-on (SSO). It's an ideal place to upload files you want to use in your course and to share.

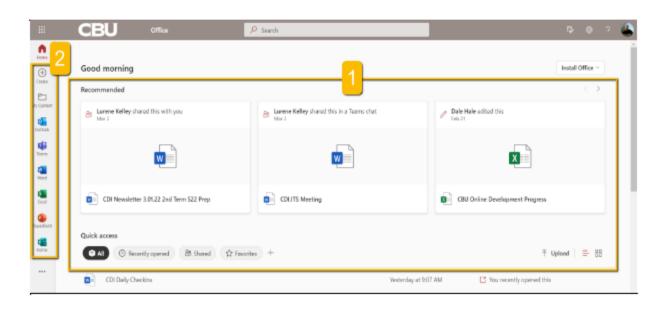
2. Finding Your OneDrive

- 1. From the CBU website, access and log in to MyCBU.
- 2. From the Resources section, select Office 365.



3. Your Office 365 Dashboard

- 1. You land in your Office 365 Dashboard, a place where you can quickly see and access the files you've recently been working on
- 2. From the left-hand toolbar, you can quickly create new files or access a number of commonly-used Office 365 tools.

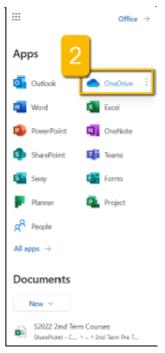


4. The App Launcher & OneDrive

 To access the Office 365 App Launcher and OneDrive, click the domino icon in the upper right-hand corner of your Dashboard.



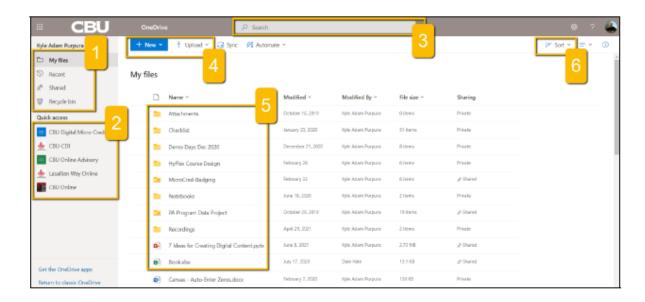
From the menu drawer that appears at the left of the screen, select OneDrive. Your OneDrive will open in a new tab.



5. Your OneDrive Dashboard

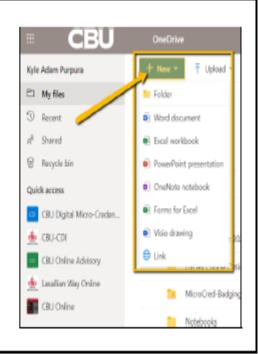
From your OneDrive Dashboard, you can:

- Quickly access all your files, your recent files, files that have been shared with you, or files that have been trashed;
- 2. Quickly access any groups to which you have been attached and any files or shared resources that are housed with these groups;
- 3. Search for a specific file or folder;
- Quickly create new files/folders or upload existing files/folders from your desktop;
- 5. View your files and folders;
- 6. Sort your files and folders in a way that makes sense to you.



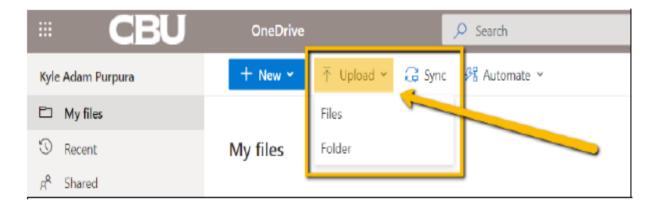
6. Create New Files & Folders

 Click the +New button to create new files (Word, Excel, PPT, OneNote, Forms, etc.) or folders in which to organize your files



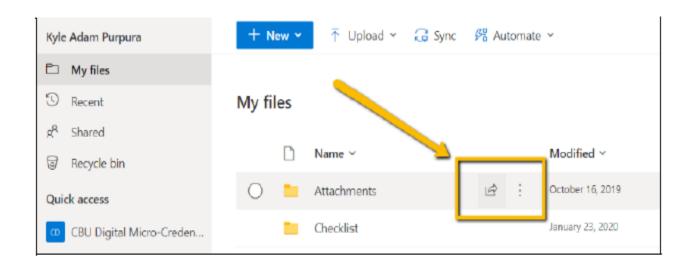
7. Upload Existing Content

• With just a couple of clicks, upload files and folders saved locally



8. Manage Files & Folders

 Hover to the right of file/folder titles to reveal a sharing button and an options (ellipsis) menu



9. Sharing Settings

 You can manage the sharing permissions for any file or folder by clicking the sharing icon located to the right of the file/folder title.



1. Send links via email or copy a link to embed in a file;



- Decide who has access;
- Manage editing rights;
- 4. Set added security measures;
- 5. Click Apply to save settings.

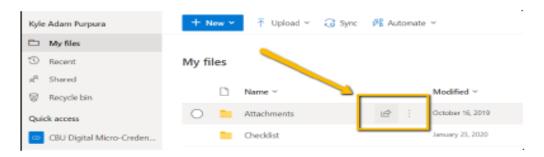
*Notes

- "Anyone with the link" expires automatically in 24 hours
- If you are sharing for a professor in a course, it's best to select "Specific people" and then enter the professor's CBU email where indicated
- Sharing settings applied to a folder are automatically applied to any file within the folder, unless individually changed

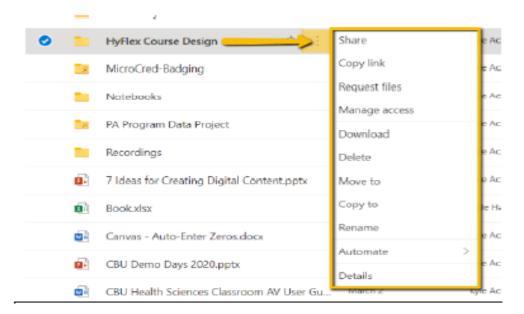


10. Ellipsis (Options) Menu

 The Ellipsis (Options) menu gives you more action options for your files/folders



 Sharing, copying, requesting files via email from another person, managing access of existing people shared already, downloading, deleting, moving or copying to another location, renaming, automating (disabled at CBU), and accessing file information



Cloud Backup & Sharing Sites

THE SITE	FREE SPACE	BEST FOR
Google Drive drive.google.com	5GB	Documents, because the interface makes it easy to edit them
Amazon Cloud Drive amazon.com/ clouddrive	5GB	Music, since you can play your stored tunes on any device with Amazon Cloud Player
Dropbox dropbox.com	2GB	Photos, because the site offers a viewer and makes it easy to share albums
Microsoft SkyDrive skydrive.live.com	7GB	Microsoft Office projects that you use from multiple computers, because the site syncs automatically
SugarSync sugarsync.com	5GB	Documents you're collaborating with others on, since you can password-protect public files

Question

Why web based software?



Don't look ahead!

Web Based Software (con't)

- Universal "platform"
- Uniform interface (the browser) and ease of usage and training
- Utilizes the Internet (speed, security, cost)
- Less configuration control issues (on the user/PC end)
- Overall economics

IT Jobs Most in Demand

1. Wireless network engineer

2015 salary range: \$99,000-\$137,500 2016 salary range: \$108,750-\$150,750 9.7% increase

2. Blg data engineer

2015 salary range: \$119,250-\$168,250 2016 salary range: \$129,500-\$183,500 8.9% increase

3. Data sclentist

2015 salary range: \$103,000-\$138,250 2016 salary range: \$109,000-\$153,750 8.9% increase

4. Mobile applications developer

2015 salary range: \$107,500-\$161,500 2016 salary range: \$115,250-\$175,750 8.2% increase

5. Data security analyst

2015 salary range: \$106,250-\$149,000 2016 salary range: \$113,500-\$160,000 7.1% increase

6. Chief security officer

2015 salary range: \$134,250-\$204,750 2016 salary range: \$140,250-\$222,500 7.0% increase

7. Developer/programmer analyst

2015 salary range: \$74,250-\$129,000 2016 salary range: \$80,000-\$137,000 6.8% increase

8. Lead applications developer

2015 salary range: \$106,250-\$148,250 2016 salary range: \$110,750-\$160,750 6.7% increase

9. Network security engineer

2015 salary range: \$105,000-\$141,500 2016 salary range: \$110,250-\$152,750 8.7% increase

10. Senior web developer

2015 salary range: \$104,500-\$144,250 2016 salary range: \$111,250-\$154,000 6.6% increase



11. Software engineer

2015 salary range: \$96,000-\$147,250 2016 salary range: \$103,000-\$156,250 6.6% increase

12. Software developer

2015 salary range: \$85,500-\$136,250 2016 salary range: \$91,000-\$145,250 8.5% increase

13. Data architect

2015 salary range: \$119,750-\$164,750 2016 salary range: \$127,250-\$175,500 6.4% increase

14. Applications architect

2015 salary range: \$115,750-\$159,500 2016 salary range: \$121,250-\$171,750 8.4% increase

15. Web developer

2015 salary range: \$73,500-\$122,000 2016 salary range: \$78,500-\$129,500 6.4% increase

16. Network administrator

2015 salary range: \$71,250-\$105,750 2016 salary range: \$76,250-\$112,000 6.4% increase

17. Information systems security manager

2015 salary range: \$122,250-\$171,250 2016 salary range: \$129,750-\$182,000 6.2% increase

18. Business Intelligence analyst

2015 salary range: \$108,500-\$153,000 2016 salary range: \$113,750-\$164,000 6.2% increase

19. Data modeler

2015 salary range: \$101,750-\$145,250 2015 salary range: \$106,750-\$155,500 6.2% increase

20. Help desk tier 3

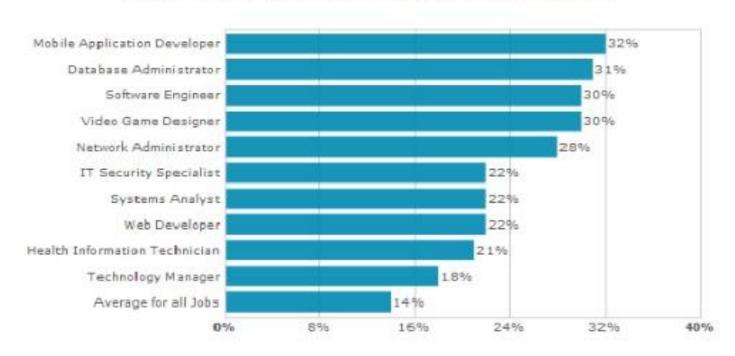
2015 salary range: \$55,250-\$74,000 2015 salary range: \$59,500-\$77,750 8.2% increase





Hot IT Jobs

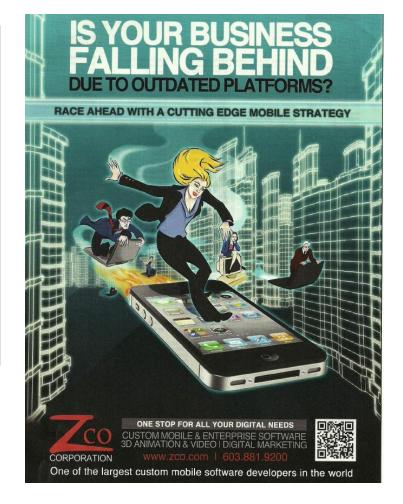
IT Career Path Growth Percentage | 2010 through 2020



Source: U.S. Bureau of Labor Statistics' 2012-2013 Occupational Outlook Handbook (OOH)

Mobile & Web Aps

Quick Facts: Software Developers		
2010 Median Pay 🕡	\$90,530 per year \$43.52 per hour	
Entry-Level Education 3	Bachelor's degree	
Work Experience in a Related Occupation 🕡	None	
On-the-job Training 🕡	None	
Number of Jobs, 2010 🕜	913,100	
Job Outlook, 2010-20 🕡	30% (Much faster than average)	
Employment Change, 2010-20 🕡	270,900	



Basic HTML



HTML

- Hypertext <u>Markup</u> Language
- Most commonly used of several Internet Markup Languages
- HTML is effected by "marking up" a document ("tags"), similar to the way you would mark up a memo for a secretary to type it in a polished form
- Some Browsers are capable of interpreting proprietary tags, and the language continues to evolve (new tags are being added)

History of HTML

Version	Date	Description
HTML 1.0	1989	The first public version of HTML
HTML 2.0	1995	HTML version that added interactive elements including web forms
HTML 3.2	1997	HTML version that provided additional support for web tables and expanded the options for interactive form elements and a scripting language
HTML 4.01	1999	HTML version that added support for style sheets to give web designers greater control over page layout and appearance, and provided support for multimedia elements such as audio and video
XHTML 1.0	2001	A reformulation of HTML 4.01 using the XML markup language in order to provide enforceable standards for HTML content and to allow HTML to interact with other XML languages
XHTML 2.0		The follow-up version to XHTML 1.1 designed to fix some of the problems inherent in HTML 4.01 syntax
HTML 5.0	2012	HTML version providing support for mobile design, semantic page elements, column layout, form validation, offline storage, and enhanced multimedia
HTML 5.2	2017	The current version of HTML 5

HTML Versions

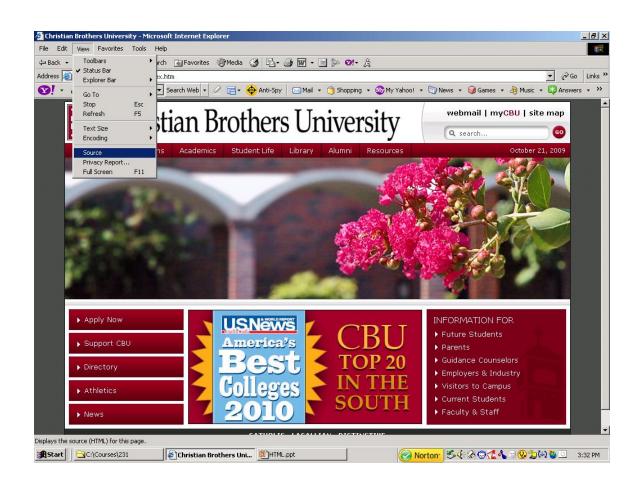
- "Old" HTML
 - Versions < 4</p>
 - Static
 - Tags define:
 - Layout:
 - Appearance: <hi> <i.</p>
 - Combining tags for specific appearance:
 - <i>...</i>

- "New" HTML
 - Versions > 4
 - Dynamic (DHTML)
 - Page element identification (DOM)
 - Tags define content
 - Style (css) determine appearance
 - Full support for scripting (JavaScript)

Looking at HTML in Documents

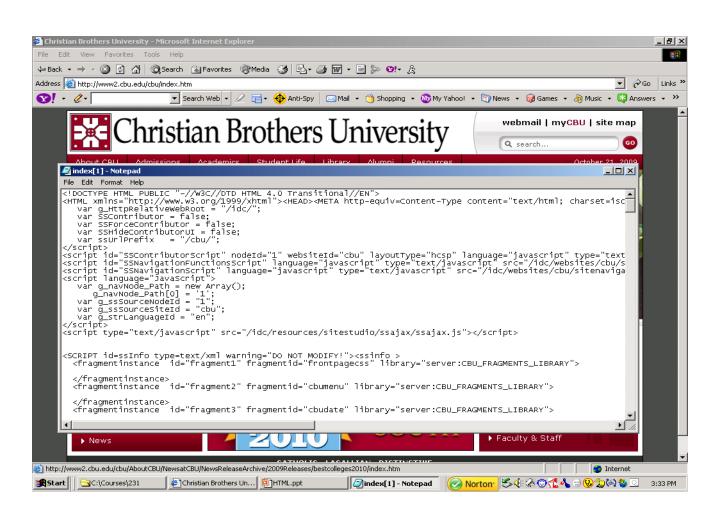
- Open HTML Document
- View Menu
 - Source
- Let at an example web page

CBU Web Site



CBU Web Site – View Source

[some browsers will open Notepad, and others will show the source code in another viewer]



Building HTML Documents

- Text editor (i.e. Notepad) ← used in this class
 - Other HTML editors such as Notepad++,
 Eclipse, CoffeeCup, and Microsoft Visual
 Studio include syntax checking to weed out
 errors and automatic insertion of HTML code
- Word Processor (text mode only)
- HTML editor built into some browsers
- HTML "converters" built into some products (ie M/S word, etc.)

Notepad ++



News About

Notepad++7.5.6: a message from

outer space

Mar 19 2018

Feb 27 2018

Dec 06 2017

Nov 28 2017

Aug 30 2017

Back to v7.3.3

Jun 08 2017

▶ Notepad++ 7.5.5 released

Notepad++7.5.4 released

▶ Notepad++7.5.3 released

Notepad++7.5.2 released

Notepad++ 7.5.1 released

• Notepad++ 7.5 released

• Notepad++7.4.2 released

Notepad++ 7.4.1 released
 May 18 2017

more news »

Notepad++ is a free (as in "free speech" and also as in "free beer") source code editor and Notepad replacement that supports several languages. Running in the MS Windows environment, its use is governed by GPL License.

Based on the powerful editing component Scintilla, Notepad++ is written in C++ and uses pure Win32 API and STL which ensures a higher execution speed and smaller program size. By optimizing as many routines as possible without losing user friendliness, Notepad++ is trying to reduce the world carbon dioxide emissions. When using less CPU power, the PC can throttle down and reduce power consumption, resulting in a greener environment.

You're encouraged to translate Notepad++ into your native language if there's not already a translation present in the Binary Translations page.

I hope you enjoy Notepad++ as much as I enjoy coding i

Building HTML Documents (con't)

- IDE (Integrated Development Environment)
 - WYSIWYG drag & drop
 - Software providing comprehensive coverage of many phases of the development process from writing HTML code to creating scripts
 - Popular IDEs: Adobe Dreamweaver,
 FrontPage/Sharepoint, Aptana Studio, NetBeans IDE, and Komodo IDE
- Business templates
 - Wix
 - Google Sites

Building HTML Documents (con't)

- A web content management system (wcms) provides authoring tools for website content and administration using prepackaged templates
- Websites usually involve the integration of many technologies and languages
- Managing all those technologies is the job of a web framework that provides the foundation of the design and deployment of web applications

Our Procedure to Build HTML Document

- Use a Windows editor (ie "Notepad")
 - On Mac's, use TextEdit
 - On Ubunto, use gedit
- Save file as <u>text file</u> with ".htm" or "html" extension; use quotes around filename("myPage.html")
- "Open File" in Browser to look at your work (or double click on file con)
- Keep both editor & browser windows open as you refine your home page

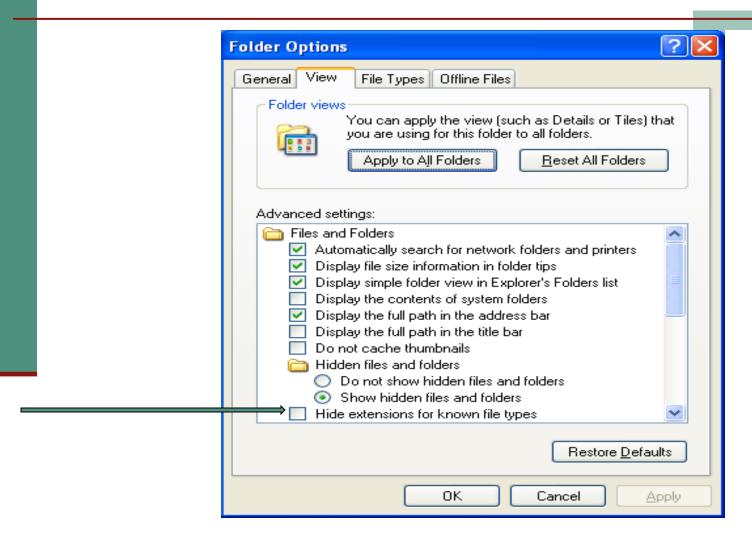
Saving an HTML file Locally

[note: file type, name.extension, and quotes]

Save As			? ×
Save jn:	3½ Floppy (A:)	▼ € Ø	
1			
File <u>n</u> ame:	"lab1.html"		<u>S</u> ave
Save as <u>t</u> ype:	Text Document	_	Cancel
	-	_	

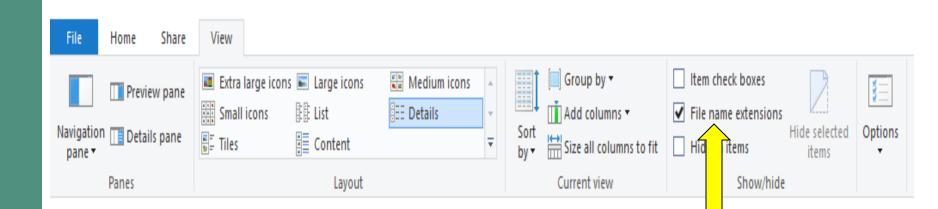
When viewing a folder, make sure the option to turn off file extensions is not activated!

Tools -> Folder Options -> View



Remove check mark from hide extensions, then "apply"

Windows 10+

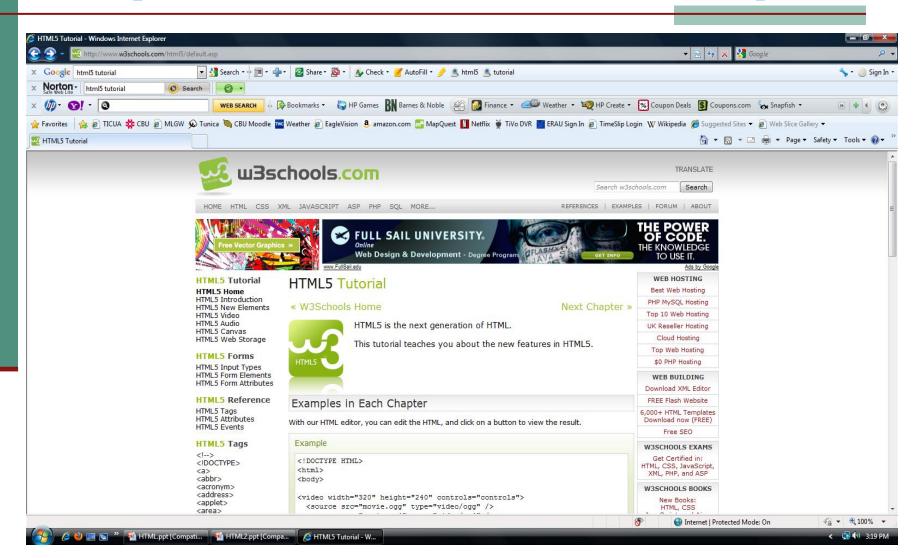


Editor on MACs

- **TextEdit** is the default text editor on Macs, and it comes pre-installed with macOS. You will find it in the Applications folder and the app allows you to write either in RTF (rich text format) or plain text (txt). For creating HTML files, you want to save the file as a plain text file, but with the .html file extension not the .txt file extension.
- In the TextEdit app on your Mac, choose File > New, then choose Format > Make Plain Text.
- 2. Enter the HTML code.
- 3. Choose File > Save, type a name followed by the extension . html (for example, enter index. html), then click Save.
- When prompted about the extension to use, click "Use . html."
- Video lesson: https://www.youtube.com/watch?v=ZsR QSoGJLY

HTML5 Tutorial

[http://www.w3schools.com/html5/default.asp]



Basic HTML - Video Tutorial



Note that this tutorial will have you save your Notepad/Wordpad files as "html" files, and in our tutorial we have you save the files as text files using the "html" or "htm" file extension.

HTML Documents

- HTML documents consists of two parts
 - Head heading information (prologue)
 - Body body of document

Both the head and the body use pieces of code called <u>tags</u>

Tags

- Tags style text, link files, embed graphics, insert tables, etc.
- Tags can be typed as all capitals for clarification, although they are not case sensitive; current recommendation is lowercase
- Syntax is:
 - <Tag_Name Property_List>...content...</Tag_name>
- The property (or attribute or argument) list is optional
- Example:
 - <h1 id="main_title">Garage Sale</h1>

Tag Pairing

- Some tags can be used by themselves, like (tag to end a paragraph) - Best to use in pairs for new HTML 4+ capabilities such as to start a paragraph and to end a paragraph
- Other tags must be used together, like <h1> and </h1> which styles a first level (1) heading; the two tags surround the heading and the second tag has a slash

Elements

- An element is combination of a starting tag, content, ending tag, and attributes
- It is fundamental building block in every HTML document
- Starting tag (<element>) indicates the beginning of an element
- Ending tag (</element>) indicates the ending of an element
- Two-sided element tag general syntax

<element>content

Empty Elements

- Empty elements are elements that are either nontextual (images) or contain directives to the browser about how the page should be treated
- An empty element is entered using a form of the one-sided element tag:

```
<element /> Or <element>
```

- For example,
br /> is used to indicate the presence of a line break in the text
 - The ending slash /> form is required only in XHTML documents as well as some other markup language

Element Attributes

- Element attributes provide additional information to the browser about the purpose of the element
- The general syntax of an element attribute is

```
<element attr1="value1"
attr2="value2" ...>
content
```

where attr1, attr2, etc. are the names of attributes associated with the element and value1, value2, etc., are the attribute values

Element Attributes (con't)

For attributes that do not require a value, HTML supports attribute minimization by removing the attribute value completely

Placeholder Text

■ The hidden attribute does not require a value; its mere presence indicates that the marked paragraph should be hidden in the rendered page

<HTML> and </HTML>

- Each document should start with the <HTML> tag and end with </HTML>
- <!DOCTYPE html>
- <html>
- ...document text & tags...
- </html>



<HEAD> and </HEAD>

- The <HEAD> tag should be at the top of your document, and denotes the start of your heading area
- The </HEAD> denotes the end of your heading

- <html>
 - <head>
 - <meta charset="utf-8">
 - ...heading...
 - </head>
 - ...document text & tags...
- </html>

Elements in the HEAD

base	Specifies the document's location for use with resolving relative hypertext links	
link	Specifies an external resource that the document is connected to	
meta	Provides a generic list of metadata values such as search keywords, viewport properties, and the file's character encoding	
script	Provides programming code for programs to be run within the document	
style	Defines the display styles used to render the document content	
title	Stores the document's title or name, usually displayed in the browser title bar or on a browser tab	

<TITLE> and </TITLE>

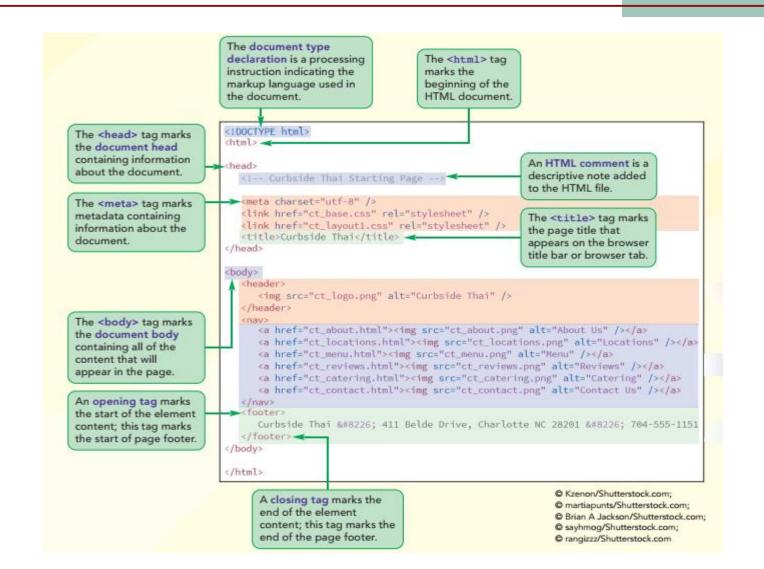
- <TITLE> and
 </TITLE> denote
 the start and end
 of the text that will
 show in the title
 bar of the browser
 window when your
 document is
 loaded
- <html>
 - <head>
 - <meta charset="utf-8">
 - <title>
 - John Doe's Home Page
 - </title>
 - </head>
- . ..document text & tags...
- </html>

<BODY> and </BODY>

The main part of your document is delimited by the two body tags

- <html>
 - <head>
 - <meta charset="utf-8">
 - <title>
 - John Doe's Home Page
 - </title>
 - </head>
 - <body>
 - ...document text & tags...
 - </body>
- </html>

HTML Structure



Indentation

- The use of indentation (via tab key) for nested HTML tags will improve readability of source document
- Browsers only use HTML tags for rendering content; tabs and returns are ignored
- <HTML>
 - <HEAD>
 - <TITLE>
 - </TITLE>
 - </HEAD>
 - <BODY>
 - <P>...
 - </P>
 - </BODY>
- </HTML>

HTML Structure (con't)

```
<!DOCTYPE html>
two-sided tag
                       <html>
enclosing element
content
                       <head>
                          <title>Curbside Thai</title>
                          <meta charset="utf-8" />
empty elements,
                          <meta name="viewport" content="width=device-width, initial-scale=1" />
which do not
                          klink href="ct_base.css" rel="stylesheet" type="text/css" />
contain content
                          <link href="ct_layout1.css" rel="stylesheet" type="text/css" />
                                                      an element attribute
                       </head>
                       <body>
                           <header>
                              <img src="ct logo.png" alt="Curbside Thai" />
                           </header>
                           <nav>
                              <a href="ct_about.html"><img src="ct_about.png" alt="About Us" /></a>
                              <a href="ct_locations.html"><img src="ct_locations.png" alt="Locations" /></a>
several elements
                              <a href="ct_menu.html"><img src="ct_menu.png" alt="Menu" /></a>
nested within
                              <a href="ct_reviews.html"><img src="ct_reviews.png" alt="Reviews" /></a>
another element
                              <a href="ct_catering.html"><img src="ct_catering.png" alt="Catering" /></a>
                              <a href="ct_contact.html"><img src="ct_contact.png" alt="Contact Us" /></a>
                           </nav>
                           <footer>
                              Curbside Thai • 411 Belde Drive, Charlotte NC 28201 • 704-555-1151
                           </footer>
                       </body>
                       </html>
```

<Hi> and </Hi>

- These tags surround text (usually headings) and indicate level (i)
- The level will determine the relative size of the text when the browser displays it (1 thru 6)

- <html>
 - <head>
 - <meta charset="utf-8">
 - <title>
 - John Doe's Home Page
 - </title>
 - </head>
 - <body>
 - <h1>John Doe</h1>
- . ..rest of document text & tags...
 - </body>
- </html>



- This tag indicates the start/end of a paragraph
- The browser will typically place a blank line at this point
- You can also use this tag in pairs (<P> & </P>) to delimit paragraphs

- <html>
 - <head>
 - <meta charset="utf-8">
 - <title>
 - John Doe's Home Page
 - </title>
 - </head>
 - <body>
 - <h1>John Doe</h1>
 - Some info...
 - </body>
- </html>

Organizing Tags

- Some tags are just used to organize information:
 - <div>...some stuff...</div>
 - ...some stuff...
- DIV will typically go to new line
- Needed for Dynamic HTML to give a name or id to each bit of stuff that will be changed dynamically
- HTML% has newer more meaningful organizing tags

Images [lab - htmllab1.htm]

- Images use the tag which requires additional information called arguments such as the filename/path and an alignment
- <body>
 - <h1>John Doe</h1>
 -

 - ...body of document...
- </body>

Warning...

- Be very careful using any cutand-paste from PowerPoint into Wordpad or Notepad !!!
- Some symbols (such as quotes) are not the same in PowerPoint and other Microsoft applications

Lab1

- Create an initial home page document with:
 - heading & body
 - title
 - your name (h1)
 - your photo
 - source file argument is "src" not "scr"
 - some text
- For now, you can use any image you get off the web until you obtain photo image – but for the homework at the end of this lesson you need your photo image

```
| Computer | Personal Action | Computer | Compute
```

Copying Images in In WWW Documents

- Place mouse on image
- Right Click
- Pick "save image"
- Cannot do this for images displayed from within Java applets or otherwise protected
- Download from image sites such as Google image

Making Your Own Images

- Draw then
 - Paintbrush (.BMP files), or other drawing programs
- Scanning
 - University & Department resources
- Digital Cameras & Cell Phones
- Mail in Photography (get back diskette)
- Video Capture & "frame grabber"

Image Processing

- Images come in a variety of file formats
- Different browsers can handle different formats (gif, jpeg, pcx, etc.), all browsers can handle:
 - ".gif" (Graphics Interchange Format)
 - ".jpeg" (Joint Photographic Experts Group)
 - ".png" ["Portable Network Graphic"]
- Try to convert all your images to these formats

Graphic File Formats

Format	Max bits per pixel	Max colors	Max image size	Compression	Multiple
.BMP	24	16,777,216	65K x 65K	RLE	
.GIF	8	256	65K x 65K	LZW	Yes
.JPG	24	16,777,216	65K x 65K	JPEG	
.PCX	24	16,777,216	65K x 65K	RLE	
.TIF	24	16,777,216	4M total	LZW, RLE, etc.	Yes

Graphic File Formats (con't)

- JPEG compression should be used for continuous tone images such as most photographs
- JPEG is "lossy" compression which means that it may alter your image slightly for maximum compression
- GIF/PNG should be used for drawings, screen captures, animation, and the like -- also if you want a transparent background
- Animated Gif's Gif file consists of several images, which are shown in a time staggered manner

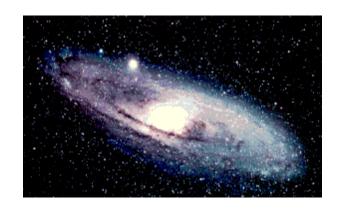
Search and Make Animated Gif's



Graphics Software Color Reduction

[can reduce file size while not visually altering image much]





Original 256 colors
100,000 bytes

Color reduced - 50 colors 40,000 bytes

Image Processing Software

- GIMP
- Paint Shop Pro
- Microsoft PictureIt
- Adobe Photoshop, PhotoDelux, etc.
- Macromedia Dreamweaver/Flash
- Corel Print House Magic Delux
- MGI PhotoSuite
- LivePix

GNU Image Program



The Free & Open Source Image Editor

This is the official website of the GNU Image Manipulation Program (GIMP).

GIMP is a cross-platform image editor available for GNU/Linux, OS X, Windows and more operating systems. It is free software, you can change its source code and distribute your changes.

Whether you are a graphic designer, photographer, illustrator, or scientist, GIMP provides you with sophisticated tools to get your job done. You can further enhance your productivity with GIMP thanks to many customization options and 3rd party plugins.

Recent News

Funding GIMP developers for sustainable development 2021-07-27

Development version: GIMP 2.99.6 Released 2021-05-08

GIMP 2.10.24 Released 2021-03-29

Development release GIMP 2.99.4 is out 12020-12-25

Read Mor

Photo Editing On-line – Google+

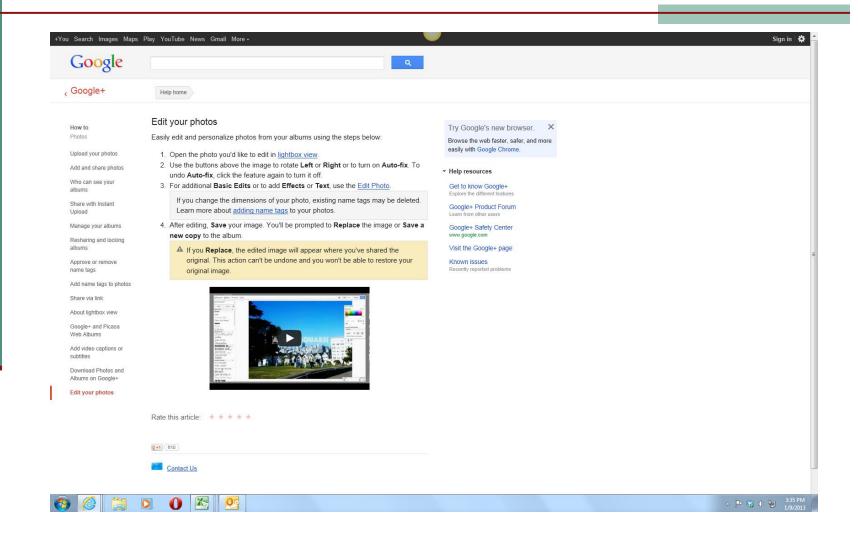


Photo Editing On-line – Picnik.com



Transfer Time for a 100KB File

Baud Rate	Transfer Rate	Time
2400	10-12 K per min	8 - 10 minutes
9600	40-50 K per min	2 - 4 minutes
14400	60-80 K per min	1.5 minutes
28800	120-160 K per min	0.75 minutes
1 Mbps	5000 K per min	2 seconds

Multimedia Download Time

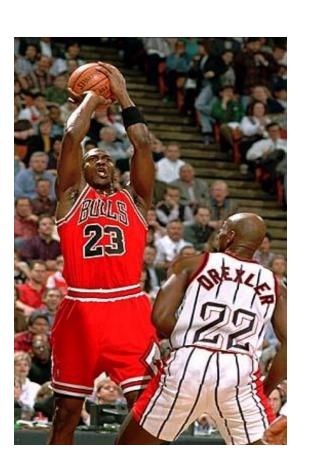
	1.5Mbps Low cost DSL	5Mbps Standard Cable	50 Mbps Fiber
1MB MP3 Song	33 sec	10 sec	1 sec
50MB Photo Album	5.5 min	1.7 min	10 sec
125 MB Video Game	14 min	4 min	25 sec
5 GB HD Movie	9 hours	2.8 hours	17 min

Image Sizes (bytes)

[smaller images with less detail require less file space]



Smile 700



Michael Jordan 36000



Lois Lane 10000

Image Dimensions

- The 'Width' and 'Height' arguments can be used to scale images
- Browsers will stretch or squeeze the image to fit in the space indicated (not retaining proportions)
- These arguments also <u>speed loading</u> by telling the browsers how big a space (in pixels) to reserve so they can add the text immediately instead of waiting to see how big the image is going to be:
 -
- However, reducing the display size does not reduce the size of the image to be downloaded (use image editing software for that task!)

Aligning Graphics with Text

- You can align graphics with text using the ALIGN attribute within the tag
- Options are:
 - top text aligned with top of image
 - texttop -
 - middle text aligned with middle of image
 - absmiddle
 - bottom (or baseline)- text aligned with bottom of image
 - absbottom
- Default is bottom
- ...text...

Adding Space Around Graphics

- You can add space around images with the 'VSpace' and 'HSpace' arguments
- Use 'VSpace for space on top and bottom
- Use 'HSpace' for space along the sides
- Example:
 -

Centering

- The ALIGN property of the IMG tag aligns an image relative to neighboring text
- To center an object on the page, you can put it inside of a table (discussed later), or you can use CSS (discussed later):
 -
- Older types of centering are deprecated:
 - <CENTER></CENTER>

Image Source File

- The SRC image indicates the location of your image file
- If you do not specify a path, it is assumed to be in the same directory as your home page and that is the recommended approach in this class
- Some images look better with "transparent backgrounds" - use a graphic software package for conversion
- Images are by default horizontally aligned like text

Absolute Path

- A root folder contains the site's home page the index.html file
- An absolute path is a path that starts from the root folder and processes down the entire folder structure described with the expression

/folder1/folder2/folder3/file

where folder1 is the root folder, followed by the subfolders folder2, folder3, and so forth, down to the linked file

Relative Path

- A relative path is expressed relative to the location of the current document
- Relative paths are often expressed in terms of familial relationships in order to indicate the hierarchical nature of the folder structure
- Relative paths go up the hierarchy to parent folders by including the symbol (..)

Base Path

- A browser resolves relative paths based on the location of the current document
- You define a different starting point for relative paths by adding the following base element to the document head

```
<base href="url" />
```

where url is the location that you want the browser to use when resolving relative paths in the current document

Lab 2

- Align your image
- Add some text next to your image



Comments

- To insert comments in your HTML code use
 - <!This is a comment>
- This will allow you (or someone else) to better understand your HTML code

Line Breaks

-
 can be used to break a line (start a new line)
- Carriage returns, tabs, and line feeds in your editor have no effect
- Text will automatically flow to the extent of the browser window size and will not break otherwise unless you tell it to do so
- You can use the no break tags (<NoBR> and </NoBR>) to keep text from breaking at the end of the browser window. If you want text to break within this non breaking section, use <WBR> at that point.
- To keep text from flowing around a left aligned image, use <BR Clear=left>, or for a right aligned image: <BR Clear=right> (& <BR Clear=all> for between images)

Horizontal Rules

- To put a horizontal dividing line in a document use <HR>
- In HTML5, the <hr> tag displays a horizontal rule, and defines a change in the content
- One can use Use CSS to style the line

Font Tags - Deprecated

- You can change the default fonts size (in points) using the <Basefont> tag with the 'Size' argument:
 - <Basefont Size=5>
- The default size is 3, and the range is from 1 to 7
- Using the tag changes the size for regular text but not headings (typically H1 = 6, H6 = 1)
 -
- You can also change font size in a relative manner with + or -.
 -

Text Styling

- Relative tags (phrase elements) are now deprecated:
 - <ADDRESS> typically used for e-mail and other addresses; shown in italics
 - <CITE> similar to address, normally used for citations
 - emphasis
 - bold
 - <VAR> indicates a variable (typically italics)
 - <CODE> or <SAMP> or <KBD> monospaced text
 - <BIG>
 - <SMALL>
 - <SUB> subscripts
 - <SUP> superscripts
 - <TT> Do not use proportional font (ie use a font like Courier)

Text Styles (con't)

Fixed tags are also deprecated:

```
■ Bold <B> and <B>
```

- Underscore <U> and </U>
- Strikeout <S> and
- Blink <Blink> and </Blink>

Text Styles (con't)

- Now (HTML5+) one should use cascading style sheets (CSS) styling:
 - <div style="font-size:large">...</div>
 - ...
 - ...
- CSS discussed more later

CSS Font & Text Wizard

[http://www.somacon.com/p334.php]

Font		
font-family	serif sans-serif cursive fantasy monospace custom:	
<u>font-style</u>	normal italic oblique	
font-variant	normal small-caps	
font-weight	normal bold bolder lighter 100 200 500 600 900	
font-size	medium small large smaller larger custom:	
Text		
line-height	100% 200% 80% 2em 1em 0.8em custom:	
word-spacing	normal 1ex 1.5ex 2ex 5ex	
letter-spacing	normal 0.1ex 0.3ex 0.75ex 1ex	
text-decoration	none underline overline line-through blink	
text-transform	none capitalize uppercase lowercase	
text-align	left right center justify	
text-indent	0ex 1ex 2ex 5ex 10ex 10% 20%	

Font Family

- As a web page author, you have no control over the fonts available on a device
- For font-family, you can specify an actual font name, like "Courier New" in the custom field
- If the name has spaces, you should quote it, and it is case-insensitive
- You can specify a comma-separated list of font names, which will be used in the order listed when some are not found on the user's system
- Designers should use the most desired font first, the most compatible font second-to-last, and the generic font family last and always. For example a common font-family value is:
 - "Verdana", "Arial", sans-serif

CSS Units

- When you use specify lengths in CSS, you should generally use the relative units appropriate to the property
- For width properties, use *ex* units, which corresponds to the width of the lower-case 'x' character
- For height properties, use em units, which corresponds to the height of the capital 'M' character
- Relative units are preferred to absolute units, like px, pt, and in
- One reason for this is that one day, monitors may have more than 96 dots per inch, in which case your 14px font will look too small
- Other relative values like smaller, bolder, and percentages are also better choices than the absolute values

Font Selection

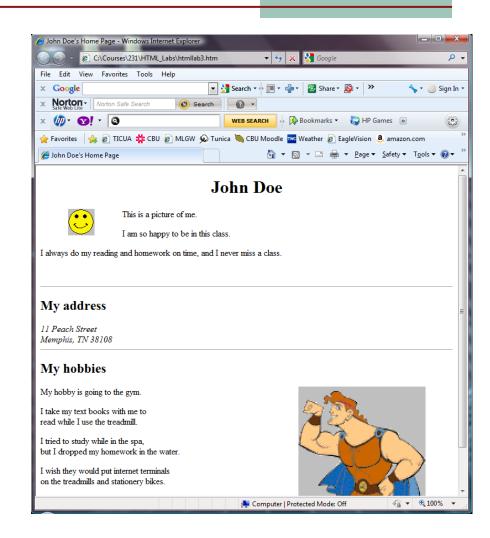
MegaFlics

Taken in New Port Ritchie, FL last weekend Megaflicks is a video store but their sign is advertising something far better than videos. This sign had me rolling- Hell 2 for \$5.99! At that price I'll take a baker's dozen! -Christopher



LAB 3

- Use the following to enhance your home page:
 - Horizontal rules
 - Breaks
 - Font and/or text style
- Include in your document: sections for your address and hobbies
- Example →



```
file:///C:/Courses/231/HTML_Labs/htmllab3.htm - Original Source
                                                           Street Sky A Chell to F August 1
File Edit Format
        <!DOCTYPE html>
         < ht.ml >
                 <head>
     3
                          <meta charset="utf-8">
                          <title>John Doe's Home Page</title>
     5
                 </head>
     6
                 <body>
                         <h1 style="text-align:center">John Doe</h1>
     9
                         <img align="left" src="smiling.gif" alt="[Picture of me]" hspace=50>
    10
                         This is a picture of me.
    11
                          >
                                  I am so happy to be in this class.
    12
    13
                          <q>>
                                  I always do my reading and homework on time, and I never miss a class.
    14
    15
                          >
                          <br clear=left>
    16
    17
                          <hr>>
                         <h2>My address</h2>
    18
                         <div style="font-style:italic">
    19
                                  11 Peach Street<BR>
    20
                                  Memphis, TN 38108
    21
    22
                          </div>
                          <hr>
    23
                          <h2>Mv hobbies</h2>
    24
    25
                          <img align=right src="hercules.gif" alt="[Picture of me at gym]" hspace=50>
    26
                          <q>>
    27
                                  My hobby is going to the gym.
    28
                          <q>>
                                  I take my text books with me to
    29
                                  <br>read while I use the treadmill.
    30
    31
                          <q>>
    32
                                  I tried to study while in the spa,
                                  <br/>but I dropped my homework in the water.
    33
    34
                          <q>>
                                  I wish they would put internet terminals
    35
                                  <br>on the treadmills and stationery bikes.
    36
    37
                          <q>>
                                  Here is a picture of me.
    38
                                  <br clear=right>
    39
    40
                          >
                          <hr>
    41
                 </body>
    42
    43
        </html>
```

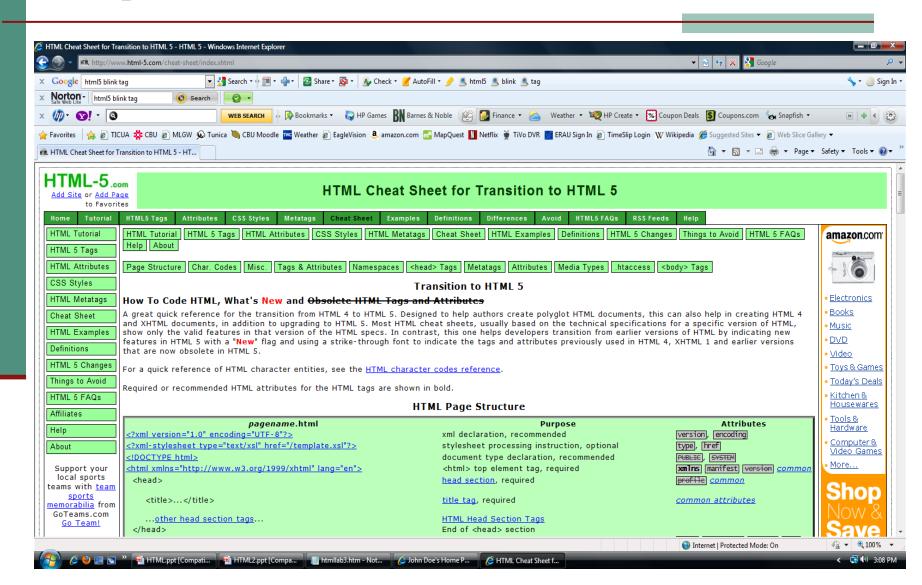
Another HTML Basic Tutorial



Also HTML "cheatsheet" in textbook appendix B

HTML Cheatsheet

[http://www.html-5.com/cheat-sheet/index.xhtml]



Text Level Elements

Element	Description
A	Marks content that acts as a hypertext link
abbr	Marks an abbreviation or acronym
b	Indicates a span of text to which attention should be drawn (text usually appears in bold)
br	Represents a line break within the grouping element
cite	Marks a citation to a title or author of a creative work (text usually appears in italics)
code	Marks content that represents computer code (text usually appears in a monospace font)
data	Associates a data value with the marked text with the value attribute providing the value
dfn	Marks a defined term for which a definition is given elsewhere in the document
em	Indicates content that is emphasized or stressed (text usually appears in italics)
i	Indicates a span of text that expresses an alternate voice or mood (text usually appears in italics)
kbd	Marks text that represents user input, typically from a computer keyboard or a voice command
mark	Marks content that is highlighted for reference purposes

Text Level Elements (con't)

Element	Description
	Description
Q	Marks content that is quoted from another source
ຣ	Marks content that is no longer accurate or relevant (text is usually struck through)
samp	Marks text that represents the sample output from a computer program or application
small	Marks side comments (text usually in small print)
span	Contains a generic run of text within the document
strong	Indicates content of strong importance or seriousness (text usually appears in bold)
sub	Marks text that should be treated as a text subscript
sup	Marks text that should be treated as a text superscript
time	Marks a time value or text string
u	Indicates text that appears stylistically different from normal text (text usually appears underlined)
var	Marks text that is treated as a variable in a mathematical expression or computer program
wbr	Represents where a line break should occur, if needed, for a long text string

Grouping Elements

	B : 4:
Element	Description
blockquote	Contains content that is quoted from another source, often with a citation and often indented on the page
div	Contains a generic grouping of elements within the document
dl	Marks a description list containing one or more dt elements with each followed by one or more dd elements
dt	Contains a single term from a description list
dd	Contains the description or definition associated with a term from a description list
figure	Contains an illustration, photo, diagram, or similar object that is cross-referenced elsewhere in the document
figcaption	Contains the caption associated with a figure
hr	Marks a thematic break such as a scene change or a transition to a new topic (often displayed as a horizontal rule)
main	Marks the main content of the document or application; only one main element should be used in the document
ol	Contains an ordered list of items
ul	Contains an unordered list of items
li	Contains a single item from an ordered or unordered list
р	Contains the text of a paragraph
pre	Contains a block of preformatted text in which line breaks and extra spaces in the code are retained (often displayed in a monospace font)

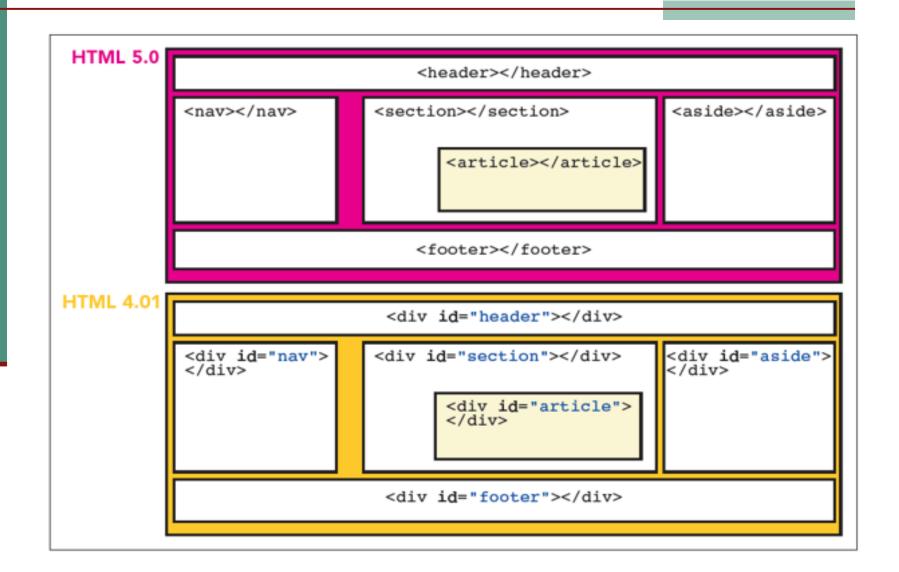
Sectioning Elements

- HTML marks the major topical areas of a page using sectioning elements
- Sectioning elements are also referred to as semantic elements because the tag name describes the purpose of the element and the type of content it contains
- Earlier versions of HTML used primary the DIV element, and for compatibility reasons you may chose to use just the earlier methods

HTML5 Sectioning Elements

Element	Description
address	Marks contact information for an individual or group
article	Marks a self-contained composition in the document such as a newspaper story
aside	Marks content that is related to a main article
body	Contains the entire content of the document
footer	Contains closing content that concludes an article or section
h1, h2, h3, h4, h5, h6	Marks major to minor headings with h1 representing the heading with the highest rank, h2 representing next highest-ranked heading, and so forth
header	Contains opening content that introduces an article or section
nav	Marks a list of hypertext or navigation links
section	Marks content that shares a common theme or purpose on the page

HTML 5 vs Earlier Sectioning



References

- HTML5 and CSS3 All-in-One For Dummies by Andy Harris
- HTML QuickStart Guide: The Simplified Beginner's Guide To HTML by ClydeBank Technology and Martin Mihajlov
- Html Guide (Quick Study Computer) by Inc. BarCharts

Homework

