

CS 1100: Web Development: Client-Side Coding / Fall 2016

Lab 1: Getting started with HTML & CSS

Goals

- Practice writing code in a text editor
- Make a simple web page using basic HTML and CSS
- Make your work available on the Web

Overall, the goal of this lab is for you to practice writing HTML and CSS and upload your files to a server. It is important that you leave yourself enough time to upload your work; therefore, make sure that when it is about 10 minutes before the end of the class you submit your work. You may continue working after that and submit an updated version before the class is over. It is OK if you don't complete all the HTML & CSS tasks: your goal should be not to race to the finish, but to work carefully, paying attention to detail, and enjoying the process.

Contents

1. Activity A: Initial Setup
2. Activity B: Uploading your work to a server
3. Activity C: Writing HTML
4. Activity D: Adding CSS
5. Submit your work

Activity A: Initial Setup

Step 1. Create a new folder on the desktop, call it lab1

The name of the folder is irrelevant: so you may call it anything you like; for simplicity, I will refer to this folder as lab1. This is the folder where you will be working today. You will be working with more than one file; creating a new folder and keeping all your work in that folder makes it much easier to keep track of the files you are currently working on and not confusing them with similar files - especially on a lab computer.

Step 2. In your lab1 folder, create a blank web page.

File name extensions

Make sure your folder displays file name extensions: in Windows 8/10, click on the View option in the upper menu to view the Ribbon menu. Make sure the box next to File Name Extensions is checked.

(If you need more detailed instructions: <http://www.thewindowsclub.com/show-file-extensions-in-windows>)

A web page is a plain text file. Therefore, right-click your mouse inside the lab1 folder and select new > text document. Give it the name **index.html**. Remember, that if your folder is not displaying file name extensions, the file you have created is really index.html.txt - with the ".txt" hidden.

USE LOWERCASE for your file names. Most servers are case-sensitive. You'll save yourself a lot of trouble if you still to lowercase only. Of course, there should be NO SPACES in filenames!

Step 3. Double click the filename - the default browser will launch displaying a blank page (you may use any browser you like). Of course, we need to edit this web page, so let's open it in a text editor: right-click the filename and open it with Notepad++ (Depending on the setup of your computer, you might see an option "edit in Notepad++", if not - choose "open with" and then find Notepad++).

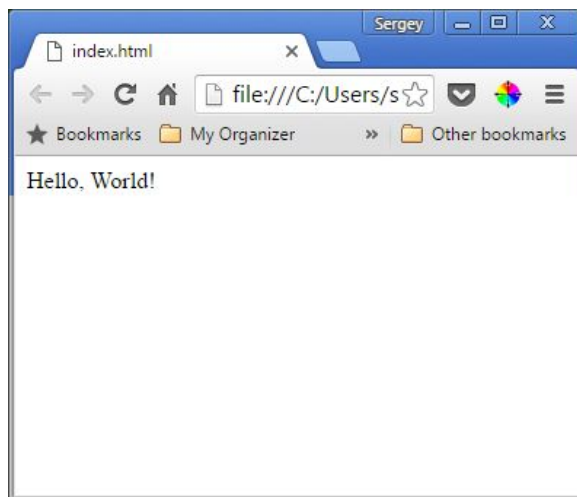
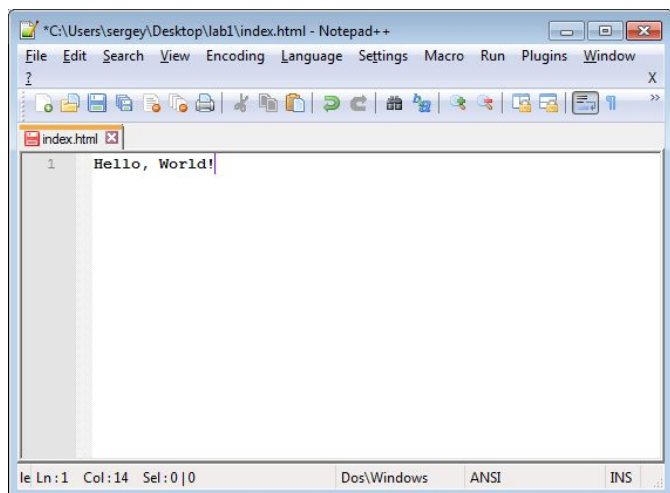
You don't have to use Notepad++ if you prefer a different editor. If it's your first time, I recommend using Notepad++ because it is a very simple editor, yet it has a lot of useful features that simplify your coding. It is free, so you can install it on your personal computer as well.

Once the file is open, let's add the following content:

Hello, World!

Save the file (you may click the blue floppy disk icons (use either one: the single-disk icon saves the current file, the multi-disk icon saves all open files: that's useful when you may have multiple tabs open in Notepad++).

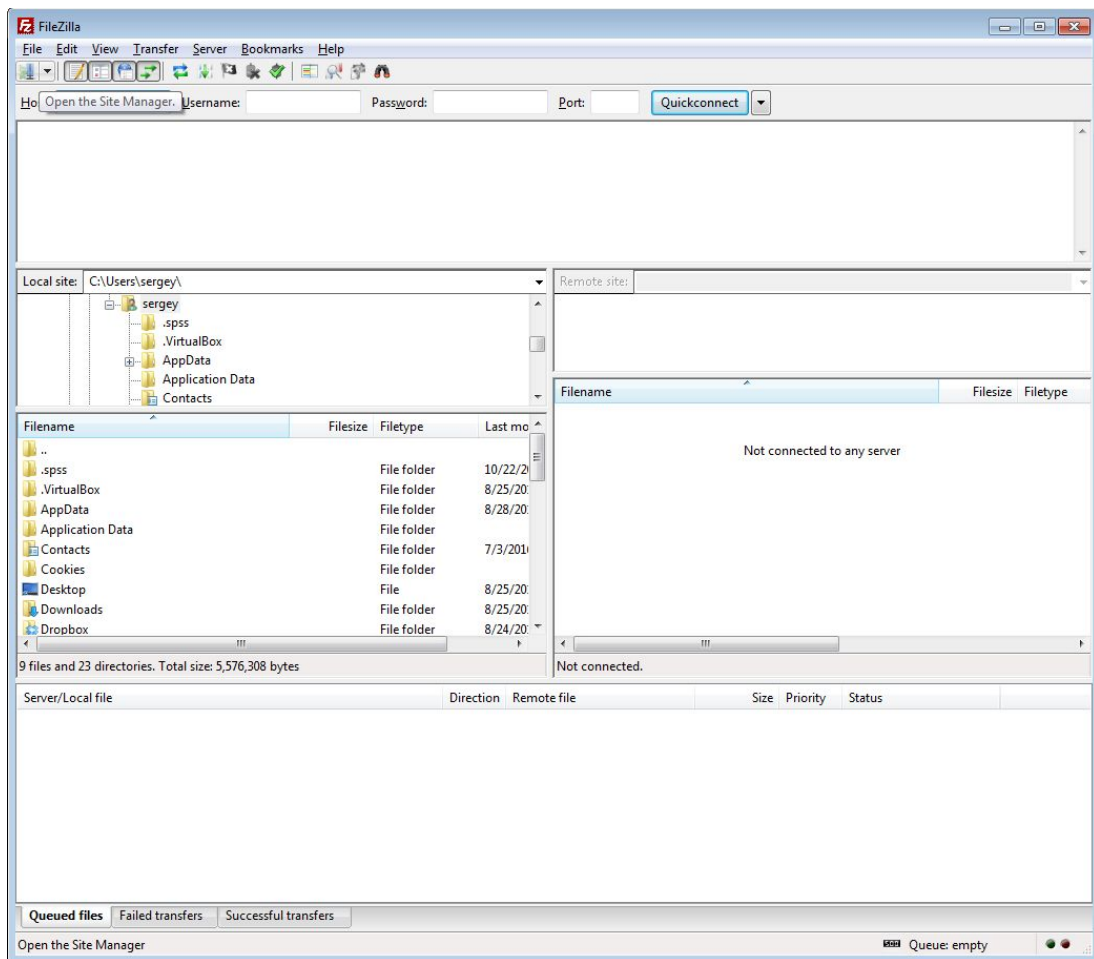
Now back to browser: hit the refresh button. You have a web page!



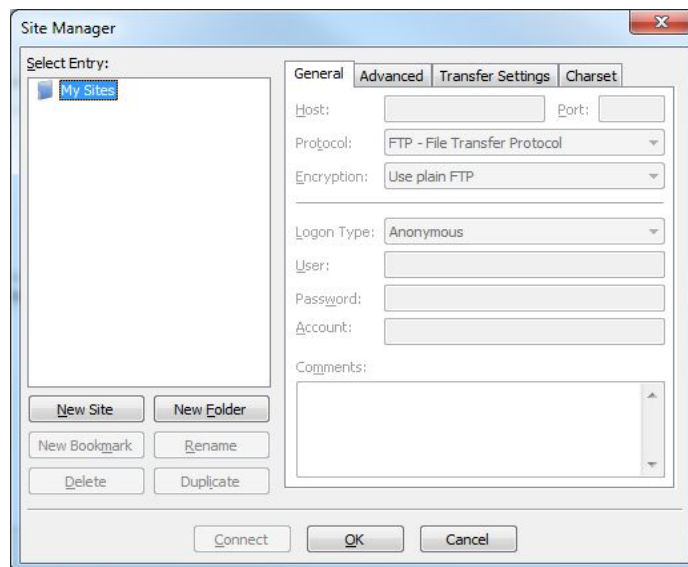
Activity B: Uploading your work to a server

To view your web page online, you need to upload your file to a web server. To do that, you need a program that will let you transfer files between your computer and a server. There are several options (all free); FileZilla and WinSCP are good options for Windows, Cyberduck is for Macs (it's also available for Windows). This lab refers to FileZilla, but you may use anything you like.

Step 1. Launch FileZilla.



Then click the icon in the top left corner that launches a pop-up window: Site Manager:



Hit the New Site button, then give it a name (I suggest using "weblab" - you may use any name, but weblab is the name of the server, so it's descriptive). This is a connection profile which stores connection configuration. Configure the following settings:

Host: weblab.uni.edu

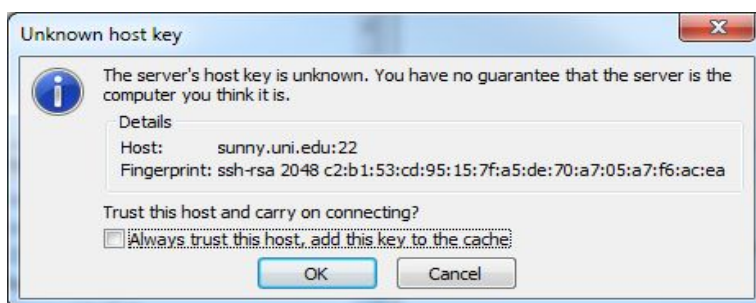
Protocol: SFTP...

Logon Type: Ask for password

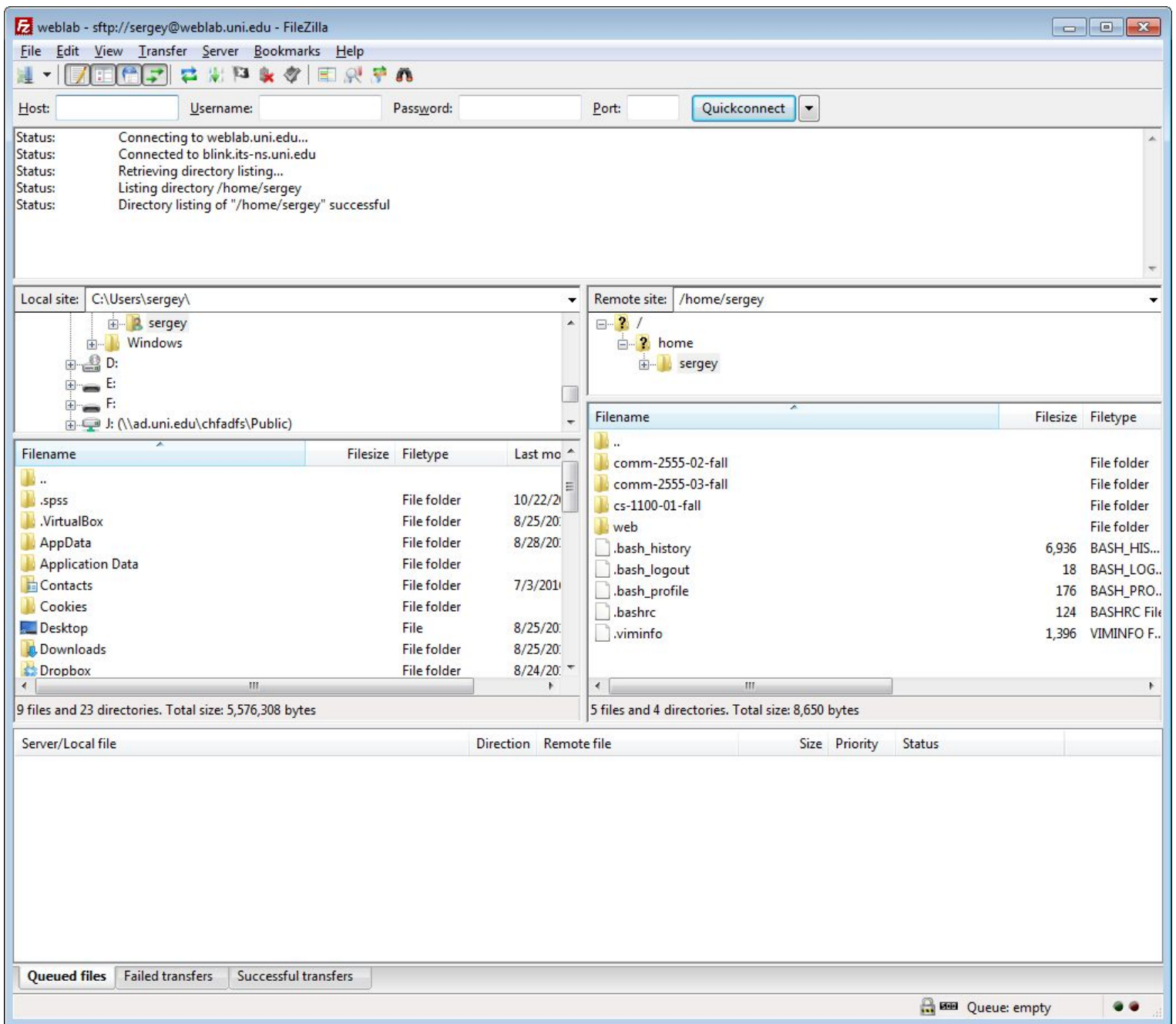
Hit Connect (hitting OK is fine: it will save this profile only; hitting Connect both saves the profile and establishes a connection).



You may ignore the following window:



Now you're connected!



The left part of the screen is your local computer. The right side of the screen is the remote server. Don't mix them up!

What you see on your right screen will be slightly different: you will only see a directory* called "web" and several files with no file name extensions (starting with .bash_): these files hold your user profile information - ignore them, but don't delete them.

* We use the term *directory* and *folder* interchangeably.

To upload a file from your computer to the server, simply drag and drop the file icon from the left to the right side of the screen.

To download a file to your computer from the server, drag and drop the file from the right side to the left side.

Keep in mind:

- Make sure you are in the right directories on both, your computer and the server
- You may drop the file icon onto a folder icon - then it will be placed inside that folder. However, this is error prone, so better first open the folder, then drag and drop the file into that folder.

IMPORTANT: Home vs Web directory

When you log into weblab.uni.edu you will be placed in your **home** directory (for example, /home/johnsnow).

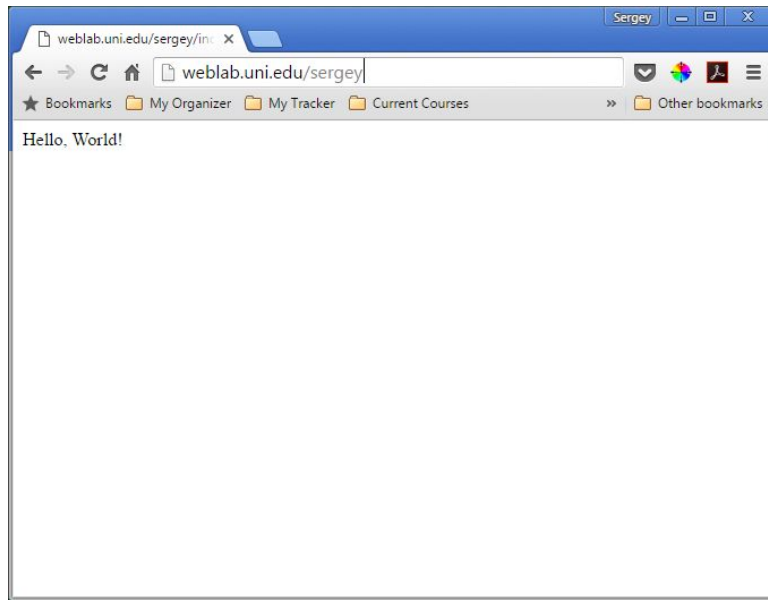
Files created in your home directory are private and only accessible by you (and your instructor).

You will notice that your home directory contains a subdirectory called **web**. This is where you should place any files that you would like to be publicly accessible through a browser - i.e., from your web URL (which is <http://weblab.uni.edu/johnsnow>).

Example: `/home/johnsnow/web/thewall.html` will be publicly viewable at <http://weblab.uni.edu/johnsnow/thewall.html>

Another example: `/home/johnsnow/web/index.html` will be publicly viewable at <http://weblab.uni.edu/johnsnow/> (`index.html` will be displayed by default: there's no need to specify this file name in the URL).

Step 2. Upload your `index.html` file to the web directory. Now take a look at it in a browser: it should be available at <http://weblab.uni.edu/your-username/>



Activity C: Writing HTML

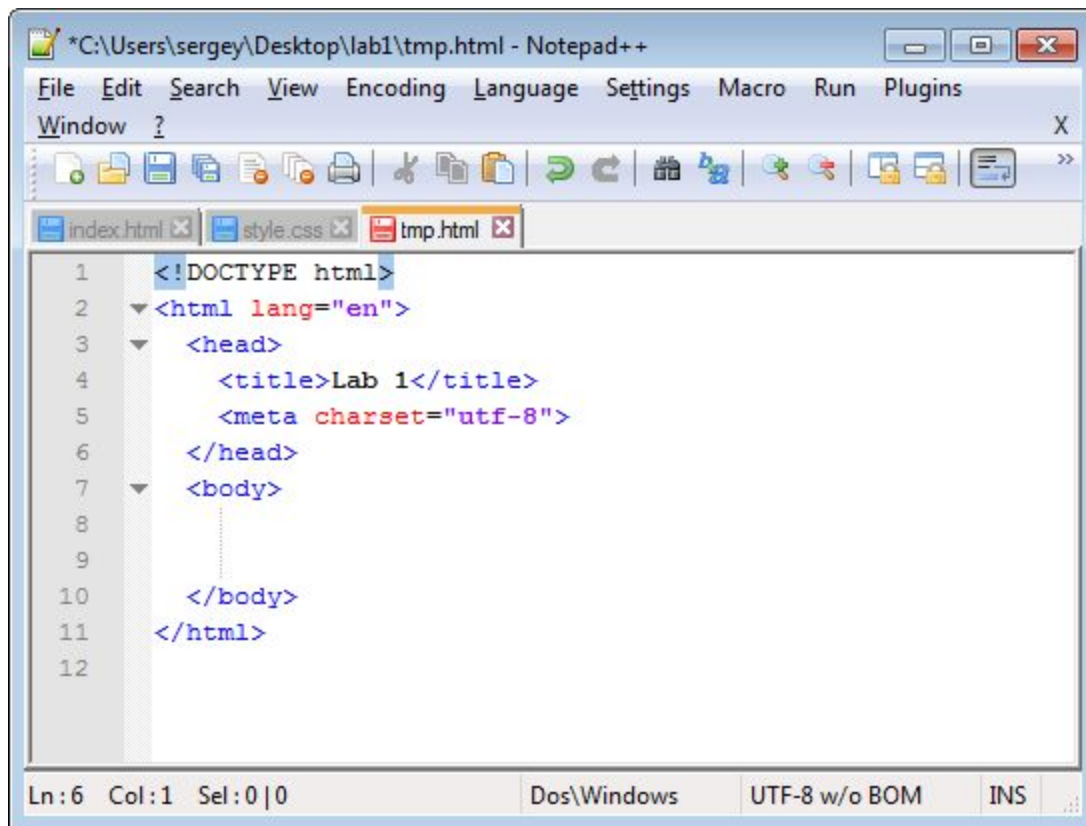
Let's try to implement most of the content of the Computer Science Department's homepage: <http://cs.uni.edu/>

It looks complicated, but fear not - it's easier than you think!

Here's how we'll go about it. The lab provides you with all the code you need to write, step by step, providing very minimalist explanation (we'll look into the details next week). Copy the code into your `index.html` file (and later, in Activity D, into your `style.css` file. Keep your editor window AND your browser window open. Each time you add a significant chunk of code, do the following:

1. Save your file
2. Switch to the browser window and hit REFRESH. Consider what has changed on the page.

Step 1. First, add the required HTML tags (you can delete the Hello World text):



```
*C:\Users\sergey\Desktop\lab1\tmp.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins
Window ?
index.html x style.css x tmp.html x
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <title>Lab 1</title>
5 <meta charset="utf-8">
6 </head>
7 <body>
8
9
10 </body>
11 </html>
12
Ln: 6 Col: 1 Sel: 0 | 0 Dos\Windows UTF-8 w/o BOM INS
```

Step 2. Copy and paste the following TEXT CONTENT from <http://cs.uni.edu/> :

- the menu on the left
- the text in the center ("Welcome...") up to the horizontal line (above August 4...)
- the faculty profile text on the right

You may remove the following lines which are image descriptors:

- Paul Gray (on the right)
- Beau Brown and Coved Oswald (in the center)

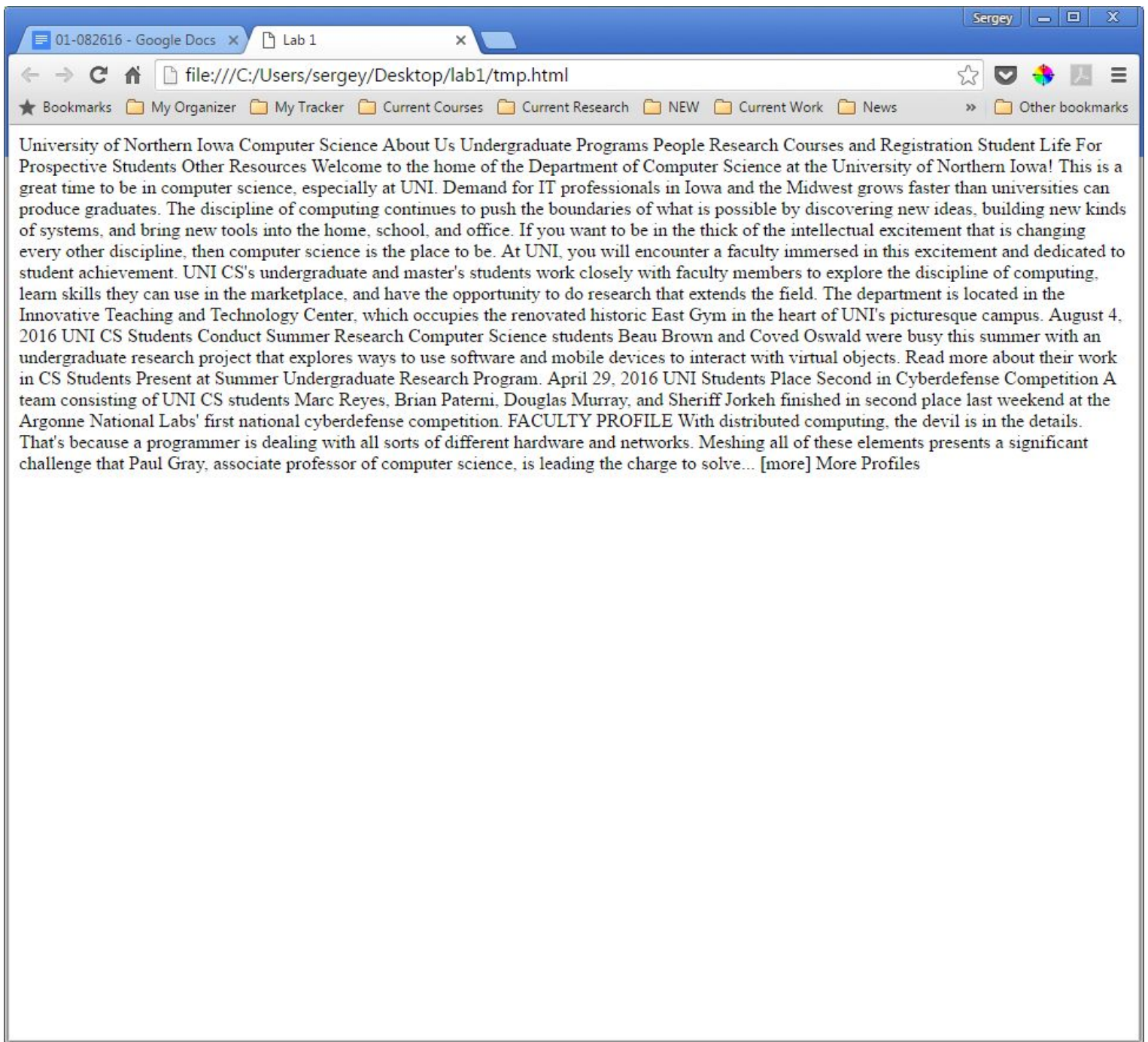
YOU MUST PASTE THIS TEXT BETWEEN THE <body> </body> TAGS.

Add this text to the top: University of Northern Iowa

Add this text to the top: Department of Computer Science


```
*C:\Users\sergey\Desktop\lab1\tmp.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
index.html style.css tmp.html
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <title>Lab 1</title>
5 <meta charset="utf-8">
6 </head>
7 <body>
8
9 University of Northern Iowa
10 Computer Science
11
12 About Us
13 Undergraduate Programs
14 People
15 Research
16 Courses and Registration
17 Student Life
18 For Prospective Students
19 Other Resources
20
21 Welcome to the home of the Department of Computer Science at the University of Northern Iowa!
22
23 This is a great time to be in computer science, especially at UNI. Demand for IT professionals in Iowa and the
Midwest grows faster than universities can produce graduates. The discipline of computing continues to push the
boundaries of what is possible by discovering new ideas, building new kinds of systems, and bring new tools into the
home, school, and office. If you want to be in the thick of the intellectual excitement that is changing every other
discipline, then computer science is the place to be.
24
25 At UNI, you will encounter a faculty immersed in this excitement and dedicated to student achievement. UNI CS's
undergraduate and master's students work closely with faculty members to explore the discipline of computing, learn
skills they can use in the marketplace, and have the opportunity to do research that extends the field. The
department is located in the Innovative Teaching and Technology Center, which occupies the renovated historic East
Gym in the heart of UNI's picturesque campus.
26
27 FACULTY PROFILE
28 With distributed computing, the devil is in the details. That's because a programmer is dealing with all sorts of
different hardware and networks. Meshing all of these elements presents a significant challenge that Paul Gray,
associate professor of computer science, is leading the charge to solve... [more]
29
30 More Profiles
31
32 </body>
33 </html>
34
Hyper Text Markup Language file length: 1787 lines: 34 Ln: 27 Col: 1 Sel: 0 | 0 Dos\Windows UTF-8 w/o BOM INS
```

Your page looks like this:



That's all the content we need! Now let's add markup!.

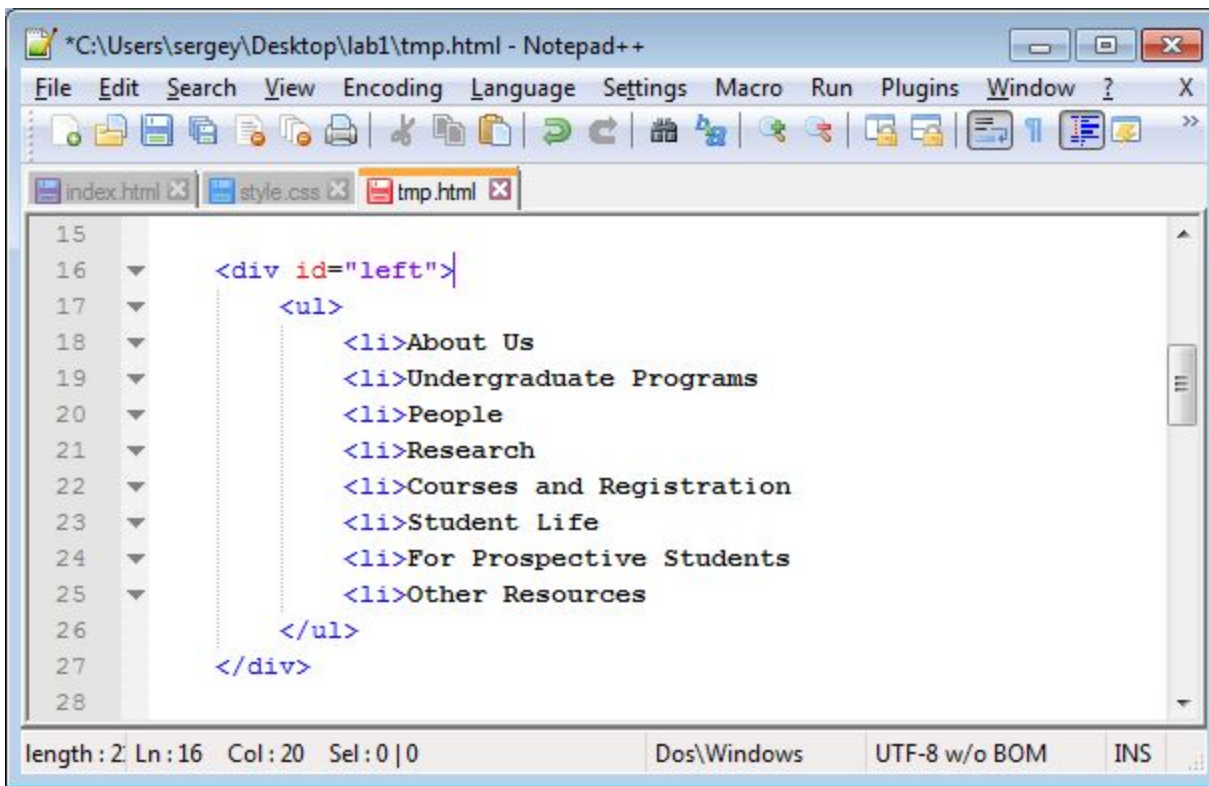
Step 3. Surround your content with `<div>` tags (these are called divisions) and indent your text (see screenshot below)
The tags look like this:

```
<div id="xxxxx">  
    your content  
</div>
```

where xxxxx is an identifier (left, right, etc...)

```
*C:\Users\sergey\Desktop\lab1\tmp.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
index.html style.css tmp.html
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <title>Lab 1</title>
5 <meta charset="utf-8">
6 </head>
7 <body>
8
9 <div id="top">
10 University of Northern Iowa
11 Computer Science
12 </div>
13
14 <div id="left">
15 About Us
16 Undergraduate Programs
17 People
18 Research
19 Courses and Registration
20 Student Life
21 For Prospective Students
22 Other Resources
23 </div>
24
25 <div id="center">
26 Welcome to the home of the Department of Computer Science at the University of Northern Iowa!
27
28 This is a great time to be in computer science, especially at UNI. Demand for IT professionals in Iowa and the
Midwest grows faster than universities can produce graduates. The discipline of computing continues to push the
boundaries of what is possible by discovering new ideas, building new kinds of systems, and bring new tools into
the home, school, and office. If you want to be in the thick of the intellectual excitement that is changing
every other discipline, then computer science is the place to be.
29
30 At UNI, you will encounter a faculty immersed in this excitement and dedicated to student achievement. UNI CS's
undergraduate and master's students work closely with faculty members to explore the discipline of computing,
learn skills they can use in the marketplace, and have the opportunity to do research that extends the field.
The department is located in the Innovative Teaching and Technology Center, which occupies the renovated
historic East Gym in the heart of UNI's picturesque campus.
31 </div>
32
33 <div id="right">
34 FACULTY PROFILE
35 With distributed computing, the devil is in the details. That's because a programmer is dealing with all sorts
of different hardware and networks. Meshing all of these elements presents a significant challenge that Paul
Gray, associate professor of computer science, is leading the charge to solve... [more]
36
37 More Profiles
38 </div>
39 </body>
40 </html>
Hyper Text Markup Language file length: 1928 lines: 41 Ln: 35 Col: 1 Sel: 0 | 0 Dos\Windows UTF-8 w/o BOM INS
```

Step 4. Add the following markup to your "left" division:

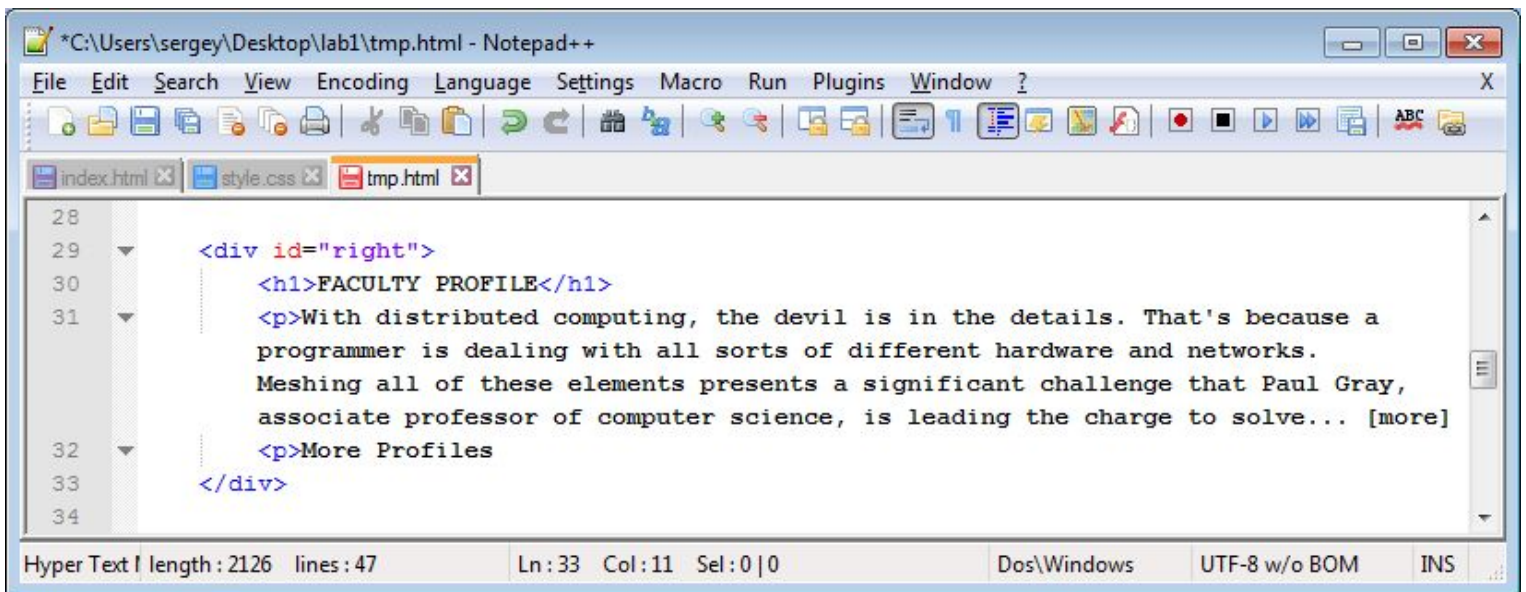


A screenshot of the Notepad++ application window. The title bar reads '*C:\Users\sergey\Desktop\lab1\tmp.html - Notepad++'. The menu bar includes File, Edit, Search, View, Encoding, Language, Settings, Macro, Run, Plugins, Window, and ?. The toolbar contains various icons for file operations and editing. The tab bar shows 'index.html', 'style.css', and 'tmp.html'. The main text area contains the following HTML code:

```
15
16 <div id="left">
17   <ul>
18     <li>About Us
19     <li>Undergraduate Programs
20     <li>People
21     <li>Research
22     <li>Courses and Registration
23     <li>Student Life
24     <li>For Prospective Students
25     <li>Other Resources
26   </ul>
27 </div>
28
```

The status bar at the bottom shows 'length : 2 Ln : 16 Col : 20 Sel : 0 | 0', 'Dos\Windows', 'UTF-8 w/o BOM', and 'INS'.

Step 5. Add the following markup to your "right" division:

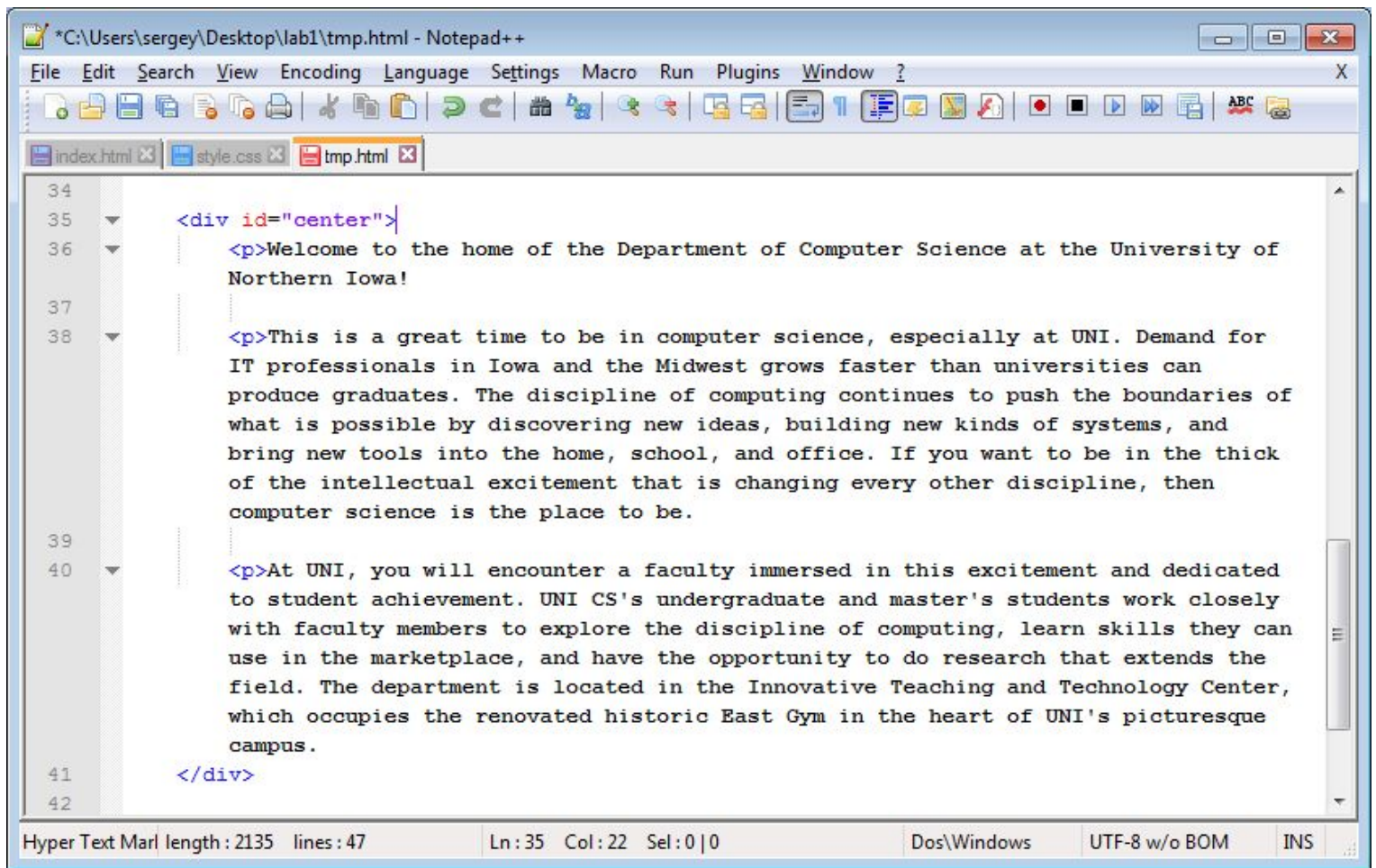


A screenshot of the Notepad++ application window. The title bar reads '*C:\Users\sergey\Desktop\lab1\tmp.html - Notepad++'. The menu bar and toolbar are the same as in the previous screenshot. The tab bar shows 'index.html', 'style.css', and 'tmp.html'. The main text area contains the following HTML code:

```
28
29 <div id="right">
30   <h1>FACULTY PROFILE</h1>
31   <p>With distributed computing, the devil is in the details. That's because a
    programmer is dealing with all sorts of different hardware and networks.
    Meshing all of these elements presents a significant challenge that Paul Gray,
    associate professor of computer science, is leading the charge to solve... [more]
32   <p>More Profiles
33 </div>
34
```

The status bar at the bottom shows 'Hyper Text | length : 2126 lines : 47', 'Ln : 33 Col : 11 Sel : 0 | 0', 'Dos\Windows', 'UTF-8 w/o BOM', and 'INS'.

Step 6. Add the following markup to your "center" division:

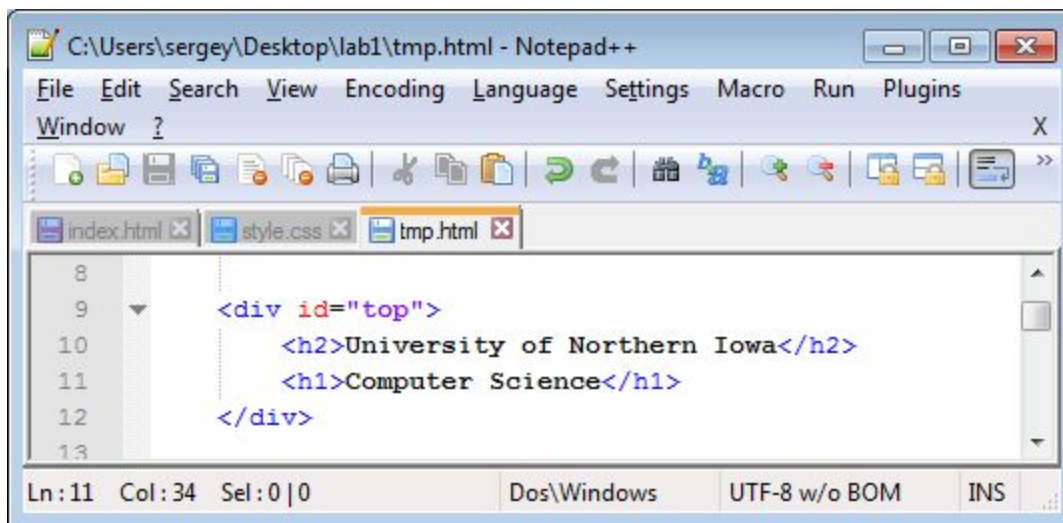


A screenshot of the Notepad++ application window. The title bar reads '*C:\Users\sergey\Desktop\lab1\tmp.html - Notepad++'. The menu bar includes File, Edit, Search, View, Encoding, Language, Settings, Macro, Run, Plugins, and Window. The toolbar contains various icons for file operations and editing. The tab bar shows 'index.html', 'style.css', and 'tmp.html'. The main text area contains the following HTML code:

```
34
35 <div id="center">
36   <p>Welcome to the home of the Department of Computer Science at the University of
    Northern Iowa!
37
38   <p>This is a great time to be in computer science, especially at UNI. Demand for
    IT professionals in Iowa and the Midwest grows faster than universities can
    produce graduates. The discipline of computing continues to push the boundaries of
    what is possible by discovering new ideas, building new kinds of systems, and
    bring new tools into the home, school, and office. If you want to be in the thick
    of the intellectual excitement that is changing every other discipline, then
    computer science is the place to be.
39
40   <p>At UNI, you will encounter a faculty immersed in this excitement and dedicated
    to student achievement. UNI CS's undergraduate and master's students work closely
    with faculty members to explore the discipline of computing, learn skills they can
    use in the marketplace, and have the opportunity to do research that extends the
    field. The department is located in the Innovative Teaching and Technology Center,
    which occupies the renovated historic East Gym in the heart of UNI's picturesque
    campus.
41 </div>
42
```

The status bar at the bottom shows 'Hyper Text Mar', 'length : 2135', 'lines : 47', 'Ln: 35 Col: 22 Sel: 0 | 0', 'Dos\Windows', 'UTF-8 w/o BOM', and 'INS'.

Step 7. Add the following markup to your "top" division:



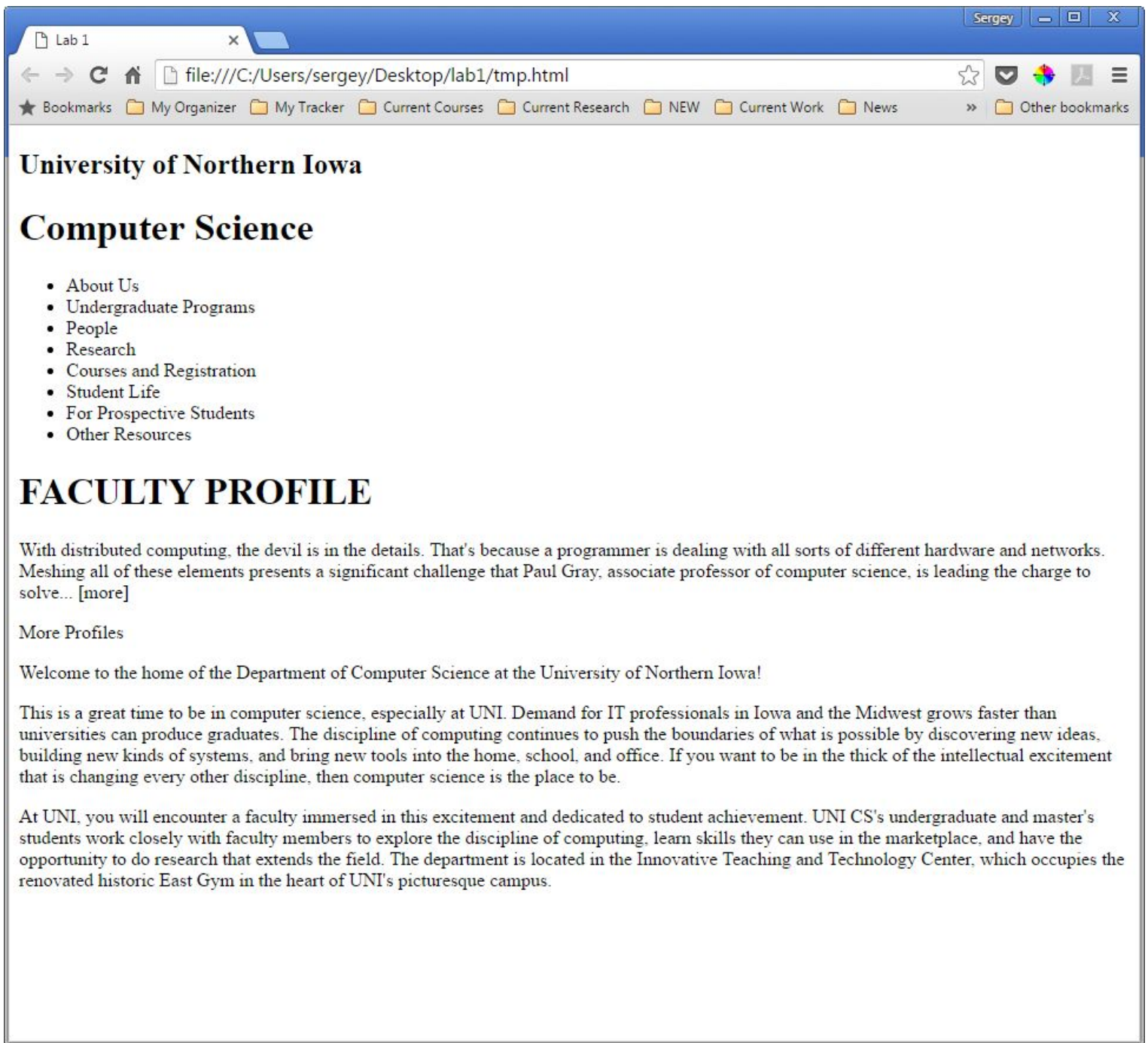
A screenshot of the Notepad++ application window. The title bar reads 'C:\Users\sergey\Desktop\lab1\tmp.html - Notepad++'. The menu bar includes File, Edit, Search, View, Encoding, Language, Settings, Macro, Run, Plugins, and Window. The toolbar contains various icons for file operations and editing. The tab bar shows 'index.html', 'style.css', and 'tmp.html'. The main text area contains the following HTML code:

```
8
9 <div id="top">
10   <h2>University of Northern Iowa</h2>
11   <h1>Computer Science</h1>
12 </div>
13
```

The status bar at the bottom shows 'Ln: 11 Col: 34 Sel: 0 | 0', 'Dos\Windows', 'UTF-8 w/o BOM', and 'INS'.

Step 8. Switch you center division with your right division (i.e., the order of your divisions should be left, right, center)

This is what your page should look like:

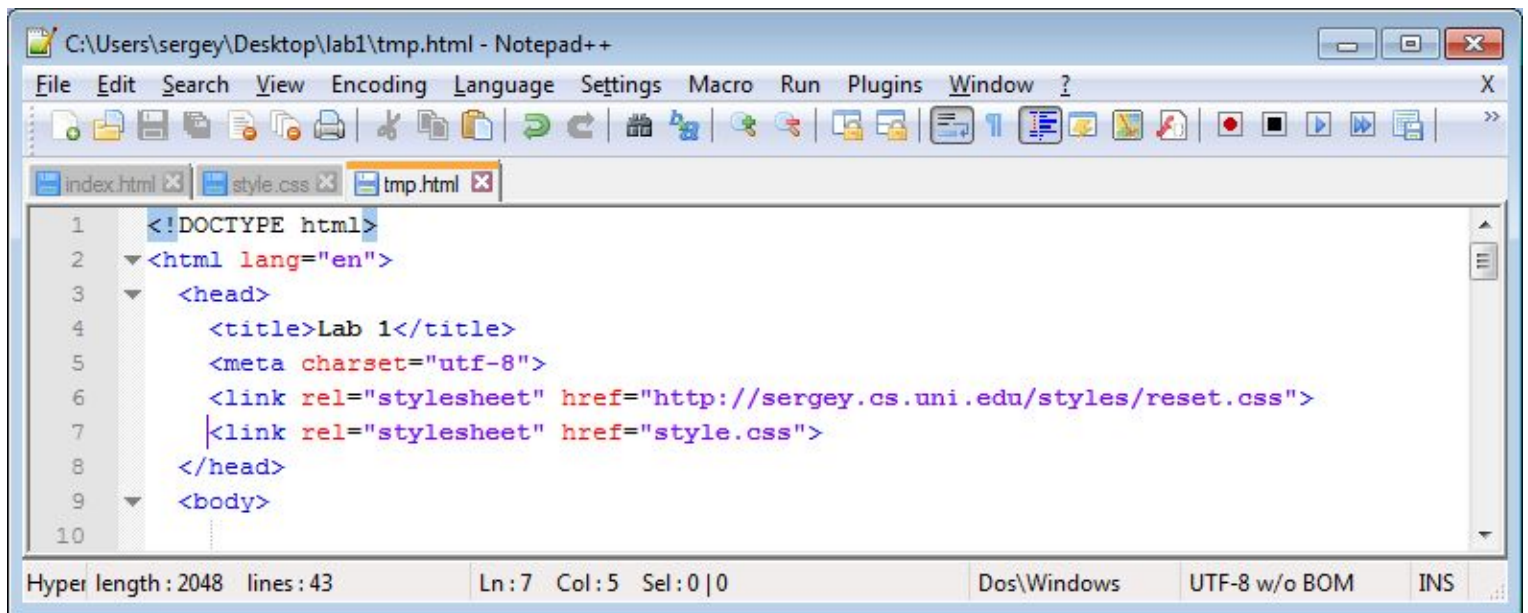


Activity D: Adding CSS

Step 1. Download this file into your lab1 folder: <http://weblab.uni.edu/sergey/style.css>

This file is a stylesheet - we will discuss the coder next week (unless we have time left today).

Step 2. Add 2 <link...> tags to your HTML (see screenshot below:



C:\Users\sergey\Desktop\lab1\tmp.html - Notepad++

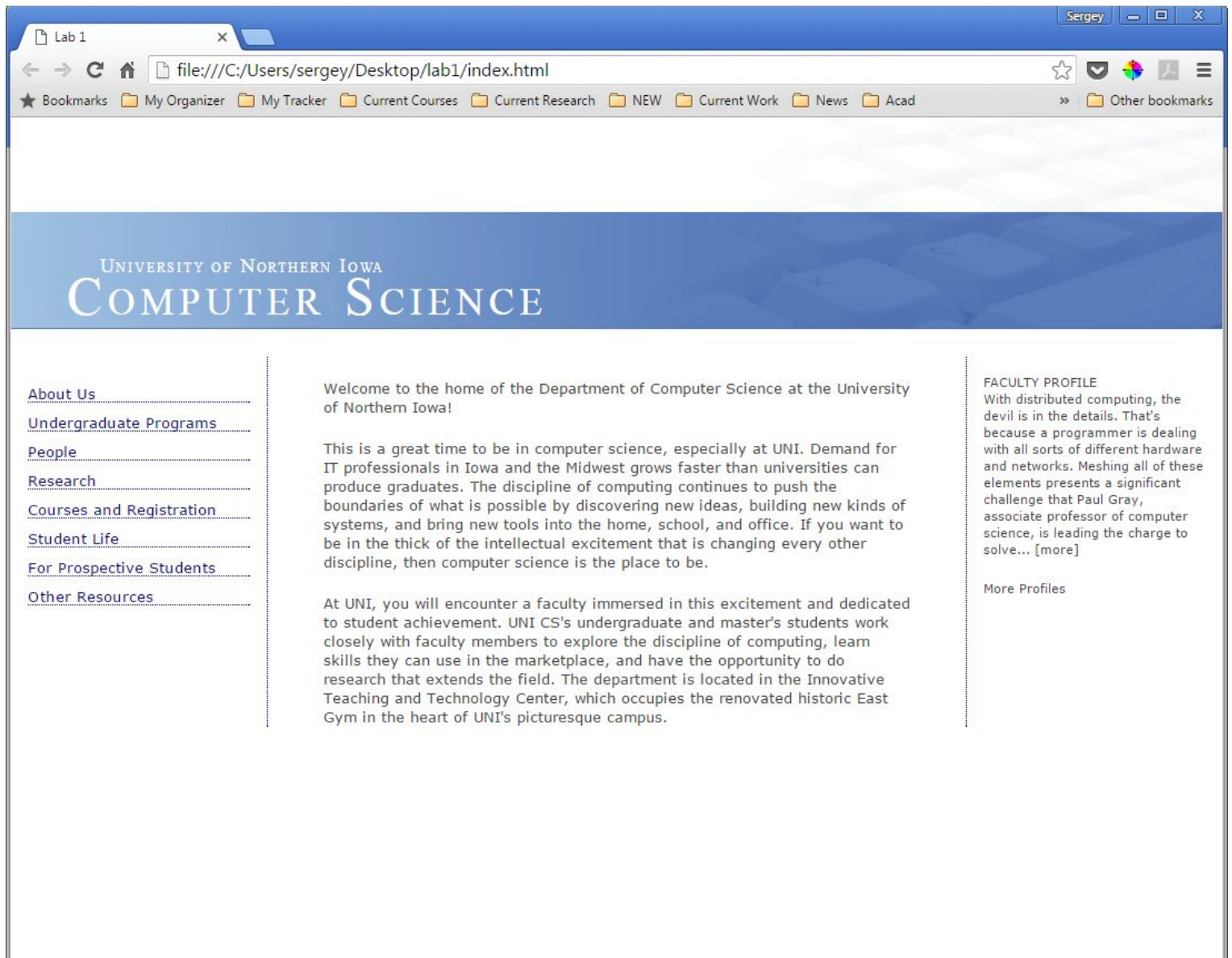
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?

index.html style.css tmp.html

```
1 <!DOCTYPE html>
2 <html lang="en">
3   <head>
4     <title>Lab 1</title>
5     <meta charset="utf-8">
6     <link rel="stylesheet" href="http://sergey.cs.uni.edu/styles/reset.css">
7     <link rel="stylesheet" href="style.css">
8   </head>
9   <body>
10
```

Hyper length: 2048 lines: 43 Ln: 7 Col: 5 Sel: 0 | 0 Dos\Windows UTF-8 w/o BOM INS

If you have completed everything correctly, this is what your page should look like:



Submit your work

Submit your index.html file to eLearning:

<https://bb9.uni.edu> > log in with CatID > our course > Course Content > Labs > Lab 1

You're done!