

Itec/MODR 2915 EN

Fall 2020

Homework 1



What to submit: a PDF file with answer to questions, with LINKS to your results (web pages). Submission link:
<https://eclass.yorku.ca/eclass/mod/assign/view.php?id=298852>

Moodle: <https://eclass.yorku.ca>

Rstudio-server: <https://oldtown.glendon.yorku.ca/>

Username: yourlastname (always in small letters)

Password: your_student_number

Your web pages are at: **<http://oldtown.glendon.yorku.ca/~yourlastname>**

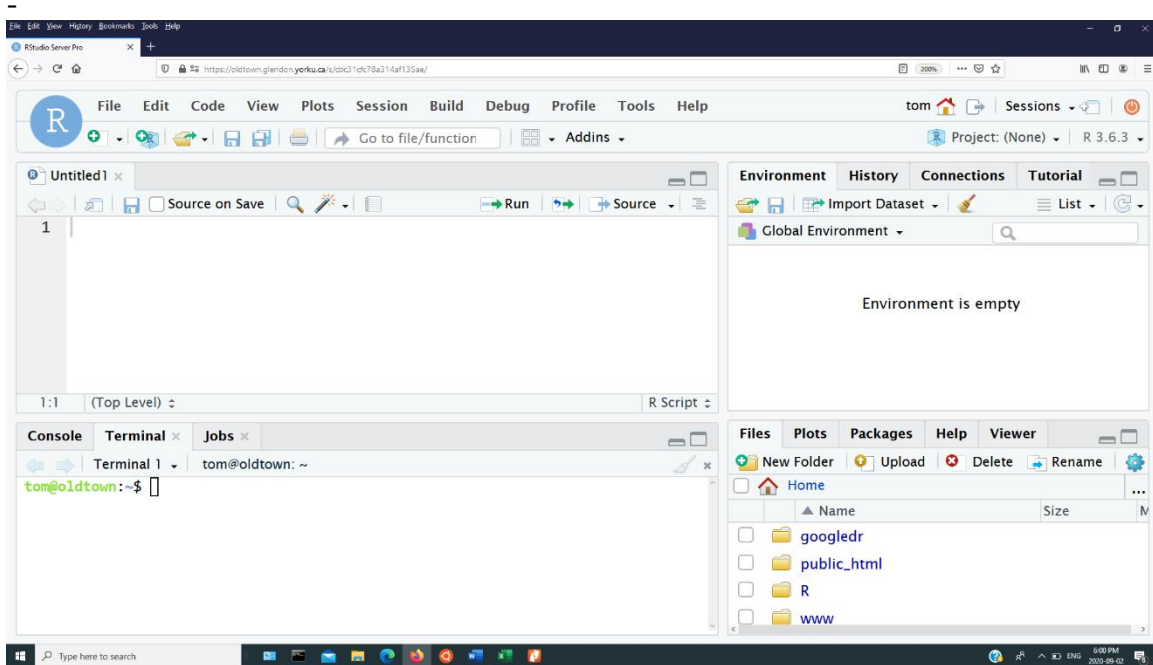
Login our server at: <https://oldtown.glendon.yorku.ca/>

Username: yourlastname (always in small letters)

Password: your_student_number

- For example, if your full name is "Peter Toft", then you web site is
<http://oldtown.glendon.yorku.ca/~toft/>
- If your last name is "Peter El Hare", then your web site is
<http://oldtown.glendon.yorku.ca/~elhare/> (last name is El Hare)
- There are 2 students D Chen and J Chen. So the web is for each student:
<http://oldtown.glendon.yorku.ca/~dchen/>
<http://oldtown.glendon.yorku.ca/~jchen/>
- **Your web pages are in the directory www:**
/home/yourlastname/www
- **Your home directory is /home/yourlastname**
- ~ is the abbreviation for /home/lastname

You will have next this graphic, or graphical user interface (GUI) below:



Click on "terminal" to activate that console in order to type command line (CLI), followed by "return" key. So we are giving a command to the computer (operating system) by typing a text (a keyword); more on Human-computer interaction.

Utility	Description
ls	"list" files and directories
pwd	"print working directory"
cd	"change (your working) directory"
mkdir	"make directory"
rmdir	"remove directory"
cp	"copy" a file or directory
mv	"move" a file or directory (i.e., rename it)
rm	"remove" a file (i.e., delete it)

Displaying Text Files

It is often convenient to look at the contents of a text file without having to open it in an editor. Previously in this lab, we saw that `cat` can be used for this purpose, but it is most useful for short files that can be viewed all on one screen.

GNU/Linux provides several other utilities that are useful for "paging" through text files (i.e., for viewing files one page at a time). Several of these commands are outlined in the following table.

Command	Description
<code>more</code>	move through a file screen by screen (hit space for the next page, return for one more line)

Exercise 1: 10 points

Definition (Wiki): A **command-line interface (CLI)** processes commands to a computer program in the form of lines of text. (Issue a command by typing text at a **terminal**, then press return.)

Try the following CLI:

- (a) `cd www`
- (b) `mkdir 2020`
- (c) `pwd`
- (d) `cd 2020`
- (e) `pwd`
- (f) `mkdir images`
- (g) `cd images`
- (h) `convert -size 800x800 canvas:white white.png`
- (i) `convert -size 800x800 canvas:blue blue.png`
- (j) Visit: <http://oldtown.glendon.yorku.ca/~lastname/2021/images>
- (k) Download from <http://oldtown.glendon.yorku.ca/~teaching/2915/l3/codes001.zip> and display the content of this ZIP file at <http://oldtown.glendon.yorku.ca/~lastname/2915/l3/>

Exercise 2: 10 points

- (a) In a terminal console, put yourself in Directory
/home/lastname/www/2020/images
using CLI (command line interface)
- (b) In the GUI (graphical user interface) copy the song petit_navire.mp3 from
http://oldtown.glendon.yorku.ca/~teaching/music/mp3/petit_navire.mp3
to your directory:
/home/lastname/www/2020/images (i.e. Your PATH you made in (a)).

- (c) Execute the CLI:

```
ffmpeg -i blue.png -i petit_navire.mp3 -c:v libx264 -pix_fmt yuv420p  
mymusic.mp4
```

Exercise 3: 10 points

#	Operation	What is the Command?
1	list files & directories.	
2	Put yourself at the HOME directory	
3	make a sub-directory called “myfile” in the home directory.	
4	Put yourself at the PATH /home/lastname/myfile	
5	Show your current PATH	
6	show the path for where you are in the directory.	
7	Make a subdirectory at /home/lastname/myfile/mp3	
8	list the contents of the home directory, no matter where you are.	
9	Put yourself at ~/myfile/mp3	
10	Go to ~ (the HOME directory which is /home/lastname)	
11	cd www	
12	pwd	
13	mkdir navire	
14	cd navire	
15	convert -size 800x800 canvas:red red.png	
16	ffmpeg -i blue.png -i petit_navire.mp3 -c:v libx264 -pix_fmt yuv420p mymusic.mp4	
17		
18		

19		
20		

HTML Introduction

What is HTML?

HTML is the standard markup language for creating Web pages.

- HTML stands for Hyper Text Markup Language
- HTML describes the structure of Web pages using markup
- HTML elements are the building blocks of HTML pages
- HTML elements are represented by tags
- HTML tags label pieces of content such as "heading", "paragraph", "table", and so on
- Browsers do not display the HTML tags, but use them to render the content of the page

A Simple HTML Document

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

Example Explained

- The `<!DOCTYPE html>` declaration defines this document to be HTML5
- The `<html>` element is the root element of an HTML page
- The `<head>` element contains meta information about the document
- The `<title>` element specifies a title for the document
- The `<body>` element contains the visible page content
- The `<h1>` element defines a large heading

- The <p> element defines a paragraph

HTML Tags

HTML tags are element names surrounded by angle brackets:

<tagname>content goes here...</tagname>

- HTML tags normally come **in pairs** like <p> and </p>
- The first tag in a pair is the **start tag**, the second tag is the **end tag**
- The end tag is written like the start tag, but with a **forward slash** inserted before the tag name

Tip: The start tag is also called the **opening tag**, and the end tag the **closing tag**.

Make a web page with the html5 code given above on page 5, to be displayed at:

<http://oldtown.glendon.yorku.ca/~yourlastname/examples/ex1>

Exercise 4: 10 points

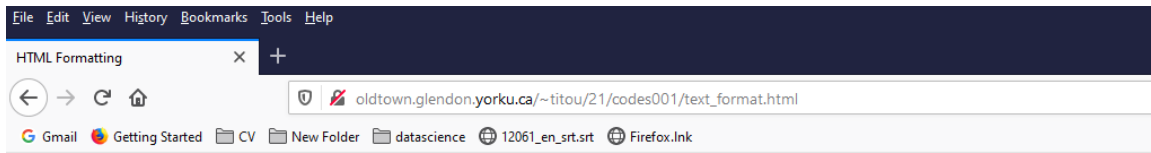
Complete the html code given below:

```
<!DOCTYPE html>
<html>
<head>
  <title>HTML Formatting</title>
  <meta charset="utf-8"/>
</head>

<body>
<p>This is a paragraph of plain text.</p>
<hr>
<p>This is strong text and this is italicised< text.</p>
<p>This is underlined text</p>
<p>This is deleted text and this is highlighted text.</p>
<p>This is subscriptedtext and this is superscripted text.</p>
<!-- this is a comment -->
</body>
</html>
```

So as to give this result below at your URL:

<http://oldtown.glendon.yorku.ca/~lastname/2635/text/format/>



This is a paragraph of plain text.

This is **bold** text and this is *italicised* text.

This is underlined text

This is ~~deleted~~ text and this is highlighted text.

This is subscripted text and this is superscripted text.

Exercise 5: html5 10 points

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8" />
    <title>Ma passion pour les animaux</title>
  </head>

  <body>
    <h1>Titre de niveau 1</h1>
    <p>Voici mes animaux:</p>
    <ol>
      <li><strong>Dragon</strong></li>
      <li>chat</li>
      <li>giraffe</li>
    </ol>
  </body>
</html>
```

Make a web page with the html5 code given above to be displayed at:

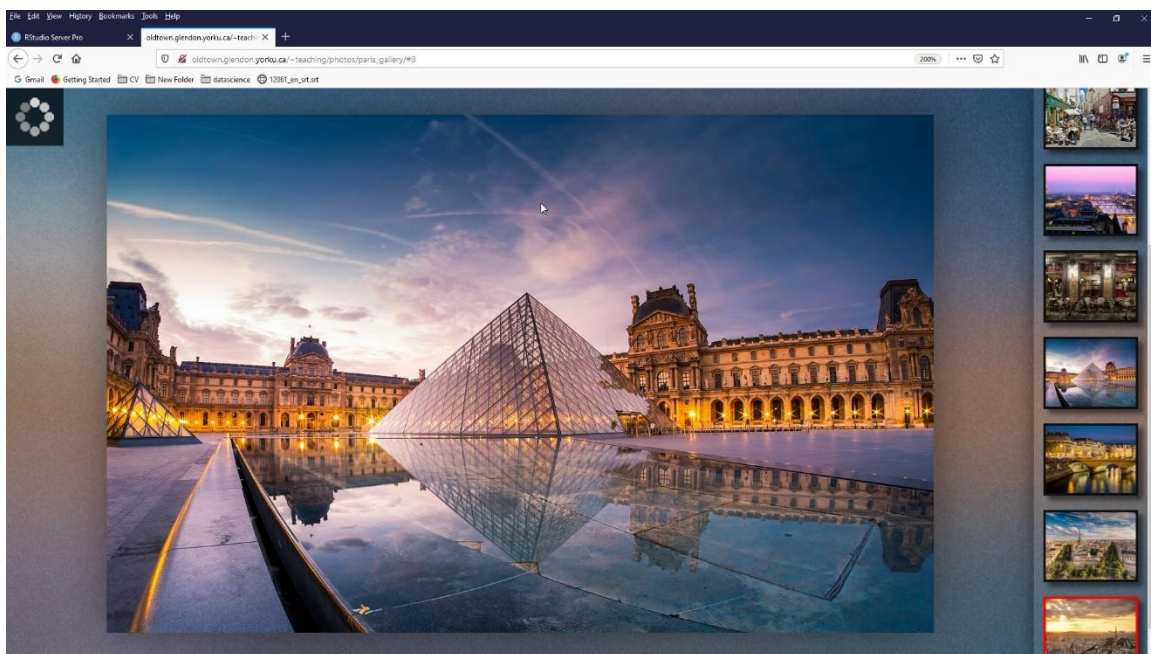
<http://oldtown.glendon.yorku.ca/~yourlastname/examples/ex212>

Exercise 6: 10 points

Making a photo gallery with CLI (command line interface) and the program **fgallery**

(a) View, repeat and explain each of the CLI given in this video:

<http://oldtown.glendon.yorku.ca/~teaching/2021/I1/ex004.mp4>



(b)

The program is **fgallery**. The syntax (how to use it) is:

fgallery input_directory output_directory

I gave you the images **paris.zip** in your directory **/home/lastname/www/examples/**. Make a photo gallery with these images at your URL:

<http://oldtown.glendon.yorku.ca/~lastname/vacances/paris>

List all your steps.

Exercise 7: 10 points.

Your web page is at: **<http://oldtown.glendon.yorku.ca/~yourlastname>**

Visit the following links:

- <http://oldtown.glendon.yorku.ca/~yourlastname/music/mp3>
 - What should you do so that the URL link above be renamed as:
<http://oldtown.glendon.yorku.ca/~yourlastname/music/french2>
 - What should you do so that that your Paris album is at this location:
<http://oldtown.glendon.yorku.ca/~yourlastname/paris/memory/french2>
- <http://oldtown.glendon.yorku.ca/~yourlastname/cv/index.html>
 - How would you replace the "blue box" with your own photo?
 - How would you replace "Welcome" by "Bienvenue!"
 - See: <https://youtu.be/ZRfsCQPGiS4>
 - or
http://oldtown.glendon.yorku.ca/~teaching/2021/syllabus/oldtown_rstudio_server_title_cv.mp4

Hint: Edit the file `index.html` at `/home/lastname/www/cv`

Replace `myphoto.png` by your own image with the same name

Here is the html and css codes for the web page above:

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" href="css/cv.css">
  <!-- Make for my students in Itec at Glendon College -->
</head>
<body>

<div id="header">
<h1> Welcome! </h1>
</div>

<h2> </h2>
<div id="section">

  <div id="left">
    <center>
      
    </center>
  </div>

  <div id = "right">
    <b>Hi!</b><p>

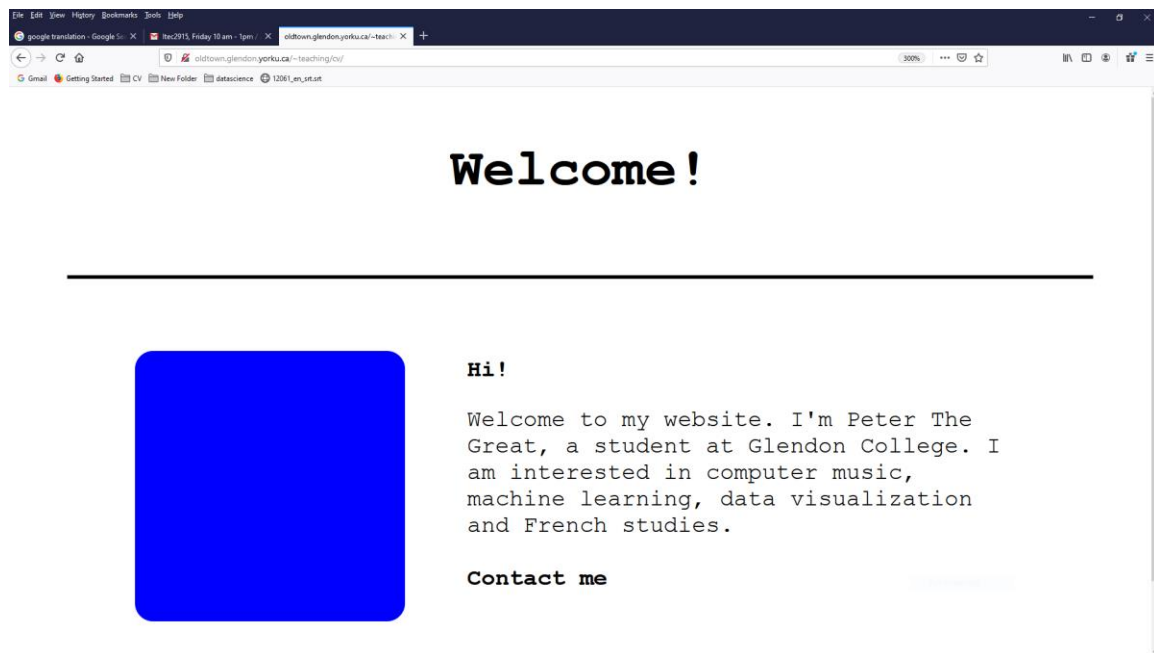
      Welcome to my website. I'm Peter The Great, a student at
      Glendon College. I am interested in computer music, machine
      learning, data visualization and French studies.
    <br><br>
    <a href="mailto:someone@yoursite.com">Contact me</a>
    <br>

  </div>

</div>

</p>

<p>
```



CSS Basics

A basic CSS rule has the following format:

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

Selector

The selector is the element that the rule will affect

Property

The property is the actual CSS rule

Value

The value is the value we want for the given property

Declarations and Declaration Blocks

Each property and value set are called a declaration.

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

You can list as many declarations as you want. A group of declarations are called a declaration block.

```
selector {
```

```
property: value;  
property: value;  
}
```

Things to note:

- Declaration blocks are always surrounded by curly braces
- Properties and values are always separated by a colon
- declarations always end with semicolons
- Spacing does not matter

CSS Comments

You type comments in to your CSS by using (`/*`) and (`*/`). Comments can span multiple lines.

```
/* A CSS comment */  
  
/* A  
Comment in  
multiple lines  
*/
```

Element Type Selectors

The most basic CSS selectors are **Element Type Selectors**. These are really just HTML tags.

For example, if we wanted to make all paragraphs have red text, we would use the following CSS rule:

```
p {  
  color: red;  
}
```

Multiple Selectors

If we wanted to make all of the ordered lists and unordered lists red, in addition to the paragraphs, we could use three rules like this:

```
p {  
  color: red;  
}  
ol {  
  color: red;  
}  
ul {  
  color: red;
```

```
}
```

Better yet, we can **combine** these three rules, by listing the selectors, separated by commas.

```
p, ol, ul {  
  color: red;  
}
```

Exercise 8: 10 points

Given the code:

```
<!DOCTYPE html>
<html>
<head>
<!-- Make for my students in Itec at Glendon College -->
</head>
<body>

<div id="header">
<h1> Welcome.....! </h1>
</div>

<h2> </h2>
<div id="section">

  <div id="left">
    <center>
      
    </center>
  </div>

  <div id = "right">
    <b>Hi!</b><p>

      Welcome to my website. I'm Peter Toft, a student at Glendon College. I a
      m interested in computer music, machine learning,
      data visualization and French studies.
      <br><br>
      <a href="mailto:tu@gmail.com">Contact me</a>
      <br>

    </div>

  </div>

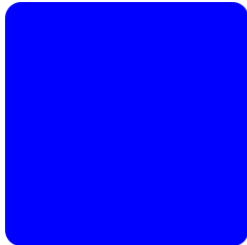
</p>

<p>

</body>
</html>
```

Write the style.css so that your result will look like this:

Welcome.....!



Hi!

Welcome to my website. I'm Peter Toft, a student at Glendon College. I am interested in computer music, machine learning, data visualization and French studies.

Contact me

Exercise 9: 20 points .Web security

- (a) Make the URL: `http://oldtown.glendon.yorku.ca/~lastname/practice001/`
- (b) Protect the URL above with username "tintin" and password "glendon2020".

Here is your .htaccess file:

```
AuthType Basic
AuthName "restricted area"
AuthUserFile /home/teaching/secret/.htpasswd
Require valid-user
```

Solution:

1. `mkdir /home/lastname/www/practice001`
2. Create .htaccess at PATH above has the following 4 lines as content:

```
AuthType Basic
AuthName "restricted area"
AuthUserFile /home/lastname/secret/.htpasswd
Require valid-user
```

3. Create directory `/home/lastname/secret/`
(use the command `mkdir`)
4. Create username and password:
`htpasswd -c /home/lastname/secret/htpasswd username`

■ done

Links:

<https://www.w3schools.com/>

Notes & Misc. Commands:

```
ffmpeg -loop 1 -i image.png -c:v libx264 -pix_fmt yuv420p -vf  
scale=320:240 out.mp4
```

```
ffmpeg -r 5 -i img%03d.jpg -vcodec h264 -pix_fmt yuv420p -crf 22 -s  
1920x1080 MOVIE.mp4
```

Recording using your sound card (stereo mix) and Audacity.

