NM2207
Week 2
Challenges

Overview of what we'll do today:

- Create a homepage with links to your homework web pages,
- Check out our new accounts on nm2207.org – a machine we will use to serve our web projects for the course
- Upload our homepage and homeworks to the server
- Prepare for the upcoming week's video lessons on JavaScript

OK, let's create a home page for you.

1) From last week class and homework, you should have a directory ("folder"), probably called 'nm2207' that looks something like this (the slashes at the end of a name indicate directory rather than file):

```
nm2207/
    Session1/
        AdvancedStyling
        HelloHTML
        HelloUniverse
        Styling
    Homework_01/
        index.html
        resources/
        left.html
```

It doesn't have to be exactly the same, but it should be well-organized. If it isn't, make it so (it will save you time later!)

2) Lets create a directory (folder) called 'web' to keep all our homepage and all our homeworks in. Create the 'web' folder, and move your homework folder in to it. (This is handy since homeworks will be uploaded, while tutorial sessions will not.) Your new directory structure should look something like this:

```
nm2207/
    Session1/
        AdvancedStyling
        HelloHTML
        HelloUniverse
        Styling
    web/
        Homework_01/
            index.html
            resources/
            left.html
```

2) Now we will create a file named index.html file that you will use as your "homepage". This file will go **in the 'web' folder you just created**. There are several ways you could do this:

Option a) download hpagestarter.zip from the "Possible rip sources" on our Class Resources page: https://nm2207.org/creativeweb/). It creates a folder called hpagestarter. Move or copy all the files in the hpagestarter to your 'web' folder.

Option b) copy the index.html file from your Homework 1 into your 'web' to use as a starter template, since the structure of a basic page with links will be the same for your homepage

Option c) Create your homepage "from scratch" by using the sublime editor.

In any case, your homepage, named index.html file (and any folders for styling) should go in to the '**web**' directory you just created.

Now you have something like this in
nm2207/web/

```
index.html
Homework_01/
    index.html
    resources/
    left.html
```

Next, edit your homepage so that it contains:

a) A welcoming message,
b) A photo of yourself,
b) A bit of text saying what this page is,
c) links to your homework assignments (leaving them in the directories where they are already)

Terminology:

relative path - path from where you "are" now.

Example: if your homepage (index.html) and your Homework directory are both in the same folder, then the path to your homework can be specified in your homepage as "Homework_01/index.html" or "./Homework_01/index.html" (since '.' in a path means "here")

absolute path – path from your computer's root directory

Example: if you are on windows, an absolute path might look like this: C:/Windows/users/myname/nm2207/web/Homework_01/index.html

It is always better to use relative paths for links in your html pages because we will be uploading your homework to a server, a machine that has a different directory structure than your laptop. Absolute paths will break, relative paths will still work.

Check your work by opening your homepage, clicking on the links to your homework pages which should open in the browser. Use the back button to go back to your home page.

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3) **For Windows users only**, you will need a program for opening terminal windows on a remote machine:

Window users only:

Download PuTTY (if you haven't already)
https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html
the MSI ('Windows Installer), 64 bit, is the one you want.

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For this course, we will be making use of a machine with the domain name: nm2207.org

4) From an open terminal/command window on your local machine (not your PuTTY window), type

- ping nm2207.org
- if the nm2207.org machine is "alive," ping will report on how long the machine takes to respond to the repeated pings
- Ctl-C will stop the incessant pinging

nm2207.org is running a "web server" program that will serve you any web pages it has stored and for which you give it the proper address. Actually, you already have a little sample web page in your web directory. Try entering this in your browser address field:

https://nm2207.org/2122II/XXXX/web/index.html

- where XXXX is your student number (something like A02343243J)

Actually**, index.html is the "default"** page the web server will give you if the path is correct – try it by typing the following in to your browser address bar:

https://nm2207.org/2122II/XXXX/web

- where XXXX is your student number (something like A02343243J)

You should see the same thing as before since index.html is served by default.

5) You also now have an account on the machine!
Your username is your NUS student number (A0…..),
Your password is Creative…Coding, where "…" is your userid

So log on:

* Mac users use a terminal window and :

- ssh userid@nm2207.org (your userid is your student number A0….)
- (you'll be prompted for your password)

* Windows users:

Run PuTTY
type nm2207.org as the Host Name (IP address)

You'll be prompted for your userid and password

Understand this please: You now have a window open on nm2207.org. Anything you do runs **on that machine** (not on your local machine)!

6) The first thing you should do when you log on to your new account on nm2207.org is **change your password**. Please make it hard to guess, but easy for you to remember! To change your password, use this command :

- passwd

7) Your window is open on your home directory on nm2207.org, and you can type bash commands (see the **Bash Shell Cheat Sheet** on our Class Resources site (https://nm2207.org/creativeweb/) for a reminder of some of the basics). Your home directory just has one folder in it now ('web') - you can see that by listing the contents with

- ls

(Actually there are some hidden "dot" file there that you can see if you do an

- ls –la

where the arguments following the dash ("-") are "l" for "long (provides last modification dates, etc) and "a" for "all" which means "show everything including the hidden dot files". BTW, those "dot" files are used to set up your environment. You will never need to worry about them unless you would like to customize your environment for some reason. If you are curious as to what is in them, you can always see what is in a file:

- less .profile

for example, will show you what is in the .profile file.
Don't change or delete any of the "dot" files unless you definitely know what you are doing!

To exit your session when you are done on nm2207.org, just type exit at the command prompt:

- exit
-

This is a much better habit than simply using the 'x' in the corner of the window.

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As you have seen already, there is already a little index.html file in your 'web' directory, and you can navigate to it by pointing your browser at:

- https://nm2207.org/2122II/[your user id]/web/

Next we will replace that file with your own homepage.

We need some program to help us upload our web pages to this machine so that they can be served. We'll use the "file transfer" (FTP) program FileZilla for that (if you already have an ftp program on your machine you are comfortable with, you don't need this)

8) Download and install the FileZilla FTP program (if you haven't already). You will find it here:
https://filezilla-project.org/
Download the Client (not the Server).

Open FileZilla and enter the hostname (nm2207.org) your userid, password in the fields at the top of the window. The "port" field should be 22.

The window on the right will open in your home directory on nm2207.org. Navigate to your 'web' folder. ***Anything you put in this folder will be visible on the web.***

Note: never delete or replace the web folder itself – only do that for files and folder inside web/

Drag your newly-created homepage there from your local folder. (Don't close FileZilla yet) . You can "overwrite" the index.html file that is already there – it is just a dummy file for testing.

9) Open a browser and navigate it to:
https://nm2207.org/2122II/[your user id]/web/

You should see the new homepage you just uploaded.

a) Click on the link to your homework. Does it work? Important: Why or why not? Discuss with your partners to make sure you understand what is happening.

10) Now use FileZilla to upload the folders that have your homework in them from your **local** machine to your home directory on nm2207.org. To keep the folder structure the same on nm2207.org as on your local machine (so that the links work properly) drag the folders you need from the same directory where your home page is located (all the sub folders will be transferred properly as well).

a) Now, back in the browser, click on your links to your homework. Better?

11) Navigate your browser to your neighbor's home page, too!

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Now lets prepare you a little bit for the next video set on JavaScript (as well as to exercise our skills from last week):

12) Download and install node.js:
https://nodejs.org/en/
The one "recommended for most users" is fine – make sure it is for your platform.

a) After you install it, run the node program by typing 'node' at the command prompt (in a cmd or terminal window) with no arguments to get a command-line interface. Now node is running, and will interpret what you type as javascript. It is very similar to interactive JavaScript interpreter you ran in the developer window last week

b) Create a 'practice' or 'scratch' directory somewhere, and open sublime

c) Enter the following JavaScript program

```
var args=process.argv

console.log("You are running this: " + args)

console.log("The 3rd item you typed was " + args[2])
```

d) Save the program as foo.js, and run it:
e) > node foo.js 'OK, see you next week!'
f) See if you can figure out/explain what this little program is doing. Getting arguments from the command line this way can enhance your code-along exercises for the coming week!

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Just as a reminder:

Command line commands

	MAC & Linux	**WINDOWS (DOS)**
Print working directory	pwd	cd
Show files in folder	ls	Dir (ls?)
Change directory to foo	cd foo	cd foo
(. means this directory, .. means the "parent" directory)		
Change to parent directory	cd ..	cd ..
Make a directory	mkdir	
Delete file foo	rm foo	del foo
Copy foo to bar	cp foo bar	copy (cp ?) foo bar
Move foo bar	mv foo bar	move (mv?) foo bar
Delete a directory foo	rmdir foo	rmdir foo
Show contents of foo on screen	cat foo	type foo
Open an foo.html file in a browser	open ./foo.html	foo.html

You can also drag and drop folders to the command window to print their location.
TAB "auto-completes" if it can.