C1- Unix & C Lab Seminar

pool_c_d02

Day 02

Shell Scripts

Instructions

Before You Go Further

- Turn in directory **pool_c_d02**.
- Keep your turn in directory clean! Do not add any file other than those required.
  Otherwise our robot may not be able to grade your work and you will have 0.
- It is a good practice to create the turn in directory at the beginning of the day and turn in your work at regular interval.

Exercise 0

Turn in

Go to your home and create a directory called "Rendu" if you haven't already. Go inside and create the turn in directory of the day using blih.
Now clone it using git.

> 💡 man mkdir; cd

> ⚠️ Do not forget the permissions on your repository!

Exercise 1

ls (2pts)

Turn in: pool_c_d02/ex_01/my_ls.sh

Create a file "my_ls.sh". This file must be a bash script and when executed, it will list the files of the current directory using the command "ls". You will have to pass some arguments to "ls" in order for your script to show hidden files in addition to regular files, the listing must be coma separated and directories name must end with '\'.

```
Terminal                                                        − + x
~/pool_c_d02> touch test
~/pool_c_d02> touch today
~/pool_c_d02> mkdir newDay
~/pool_c_d02> bash my_ls.sh
./, ../, my_ls.sh, newDay/, test, today
~/pool_c_d02>
```
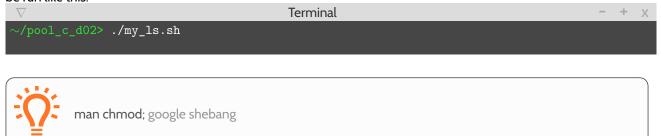
> 💡 man ls

Exercise 2

Permissions (2pts)

Turn in: pool_c_d02/ex_02/my_ls.sh

Copy your file my_ls.sh and add the necessary permission(s) to it. You must add something to your file so it can be run like this:
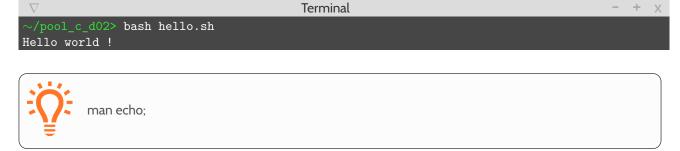
```
▽                           Terminal                    –  +  x
~/pool_c_d02> ./my_ls.sh
```

💡 man chmod; google shebang

Exercise 3

Hello World (2pts)

Turn in: pool_c_d02/ex_03/hello.sh

Write a bash script which will display ''Hello world !'' followed by a line break when run.

Example :

```
▽                           Terminal                    –  +  x
~/pool_c_d02> bash hello.sh
Hello world !
```

💡 man echo;

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Exercise 4

Cat (2pts)

Turn in: pool_c_d02/ex_04/my_cat.sh

Write a bash script my_cat.sh which will show the content of a file called "coding" when run.

Example :

```
▽                                    Terminal                              −  +  x
~/pool_c_d02> echo Hello > coding
~/pool_c_d02> bash my_cat.sh
Hello
```

> man cat;

Exercise 5

Cat 2 (2pts)

Turn in: pool_c_d02/ex_05/my_cat.sh

Copy your file my_cat.sh and modify it so it takes the file to show as its first parameter.

Example :

```
▽                                    Terminal                              −  +  x
~/pool_c_d02> echo Hello > test
~/pool_c_d02> bash my_cat.sh test
Hello
```

Exercise 6

Wc (2pts)

Turn in: pool_c_d02/ex_06/my_wc.sh

Write a bash script my_wc.sh which takes a file in parameter. This script must only show the number of words in the file in and then the name of the file.

Example :

```
▽                              Terminal                            −  +  x
~/pool_c_d02> echo "Welcome to this new day of pool" > test
~/pool_c_d02> bash my_wc.sh test
7 test
```

man wc;

Exercise 7

Grep (2pts)

Turn in: pool_c_d02/ex_07/my_grep.sh

Write a bash script my_grep.sh that takes 2 parameters: a word and a file.
The script must show every line in the file containing the word passed as parameter.

Example :

```
▽                              Terminal                            −  +  x
~/pool_c_d02> bash my_grep.sh test file
Hello, this is a test.
I love tests, they are cool.
```

man grep;

Exercise 8

Sed (2pts)

Turn in: pool_c_d02/ex_08/replace.sh

Write a bash script replace.sh that takes 3 parameters: a file and two words. The script must replace all the occurences of the first word by the second word in the file.

Example :

```
~/pool_c_d02> cat test
Hello to my friends.
~/pool_c_d02> bash replace.sh test friends buddies
~/pool_c_d02> cat test
Hello to my buddies.
```

> 💡 man sed;

Exercise 9

Let's create directories (2pts)

Turn in: pool_c_d02/ex_09/createDir.sh

Now, you have to write a bash script that will automatically create the exercises' directory of the day.

If a directory already exist no error should appear and the missing ones must be created.

Example :

```
                              Terminal                        −  +  x
~/pool_c_d02> ls

~/pool_c_d02> ./createDir.sh 5
~/pool_c_d02> ls
ex_01/
ex_02/
ex_03/
ex_04/
ex_05/
~/pool_c_d02> ./createDir.sh 15
ex_01/
ex_02/
ex_03/
ex_04/
ex_05/
ex_06/
ex_07/
ex_08/
ex_09/
ex_10/
ex_11/
ex_12/
ex_13/
ex_14/
ex_15/
```

Exercise 10
Mr Clean (2pts)

Turn in: pool_c_d02/ex_10/mr_clean.sh

Write a bash script mr_clean.sh which will 'clean' your current depository. 'clean' means delete all files finished by a '~' (emacs temporary files).

Beware, the script must be recursive: it must clean your current directory and all sub-directories.

Example :

```
~/pool_c_d02> ls -R
.:

folder1/  folder2/  folder3/  test0  test0~

./folder1:
test1  test1~

./folder2:
test2  test2~

./folder3:
test3  test3~  test4
~/pool_c_d02> ../mr_clean.sh
~/pool_c_d02> ls -R
.:

folder1/  folder2/  folder3/  test0

./folder1:
test1

./folder2:
test2

./folder3:
test3  test4
```

Now that you have finished your day, once again, verify all your exercises at least 5 times. Then, you can combine yesterday Bonus and today ex08, then if you still have some free time, you should read the C norm (available on the intranet) that you will have to follow starting from tomorrow.

It is also, very recommended to wath the videos "Le C en 29 Minutes" before tomorrow.

Bonus 01

(1pts)

Turn in: pool_c_d02/ex_11/get_user_default.sh

Restriction: use of the command "sed"

Write a shell script that will take a username as it first parameter and display his home and his starting shell like in the example. if **any** error happens, your script must return an error code and display the message "Error." followed by a newline on the error output.

Example :

```
~/pool_c_d02> ./get_user_default.sh
Error.
~/pool_c_d02> ./get_user_default.sh root
Home Directory:  /root
Default Shell:  /bin/bash
~/pool_c_d02> ./get_user_default.sh notExistingUser
Error.
```

Bonus 02

Push Script(2pts)

Turn in: pool_c_d02/ex_12/my_push.sh

Write a shell script 'my_push.sh'. It will add files to a commit, commit the modifications and then push the commit on the server. This script must take at least one parameter which is the commit message. If no other parameters are given, you must add every files to the commit. Every other paramters after the first one are the files we want to add to the commit. If no paramters are given, you must display ''No commit message, no add and no push.''.