



B1 - Unix & C Lab Seminar

B-CPE-100

Day 02

Shell language



1.0



Day 02

language: bash



- The totality of your source files, except all useless files (binary, temp files, obj files,...), must be included in your delivery.
- All the bonus files (including a potential specific Makefile) should be in a directory named *bonus*.
- Error messages have to be written on the error output, and the program should then exit with the 84 error code (0 if there is no error).



Create your repository at the beginning of the day and submit your work on a regular basis!

THE BEGINNING - RESOURCES

You will need a few resources in order to complete today's tasks.

Please download the files of the folder "resources" of the project on the intranet - next to this pdf.
In the following tasks' examples these files will be placed in a directory called `Day02`.



TASK 01 - HOW_MANY_ARE_WE.SH



When dealing with a script, remember to set the execution permission

Write a script, named `how_many_are_we.sh` that displays, given a city as an argument, the number of students in the city.

If no parameter is given, the script will display the total number of students.

In order to retrieve the data, use the following file: `students.csv` (from the `resources` folder).

The argument should always be correct and well-formatted:

```
Terminal
~/B-CPE-100> cat Day02/students.csv | ./how_many_are_we.sh ncy
```



When you're writing a script don't forget the **shebang**

TASK 02 - FIND_SH.SH

Write a script, named `find_sh.sh` that searches for each file name ending by `.sh` within the current folder and each of its subfolders and displays them.



TASK 03 - COUNT_FILES.SH

Write a script, named `count_files.sh` that displays the number of regular files in the current folder and each of its subfolders.



man find

```
Terminal
~/B-CPE-100> ./count_files.sh
3
```

TASK 04 - GOTTA_CATCH_THEM_ALL.SH

Write a script, named `gotta_catch_them_all.sh` that displays the number of people whose last names start with the string given in argument to your script.

Use the `passwd` (from the `resources` folder).

```
Terminal
~/B-CPE-100> cat Day02/passwd | ./gotta_catch_them_all.sh "martin"
```



PATH - RUN YOUR SCRIPTS FROM ANYWHERE

In order to use your scripts from any location, you might want to create a folder named `my_scripts` in your home directory, `~/my_scripts` and then copy your useful scripts into that folder.

Commands that you use in a shell *must* be located in a folder that is listed in the `$PATH` environment variable. You will want to add your `~/my_scripts` folder to the `$PATH` variable.

In order to do this, change the configuration of the `~/.bashrc` file.



man env

TASK 05 - ENCRYPTED

The task's content can be found in `Day02`, but it is encoded using a substitution cipher.

Here is the key: **LONEYTUSARFPDHIKZBCGJMQVWX**

The result can be obtained in just one command line!

TASK 06 - SKIP.SH

Write a script, named `skip.sh` that takes the output of a command and then, starting with the first one, only displays one row out of two.

```
Terminal
~/B-CPE-100> ls
skip.sh toto tata tutu titi tete
~/B-CPE-100> ls | ./skip.sh | cat -e
skip.sh$
tata$
titi$
```

TASK 07 - R_TACPY.SH

Write a script, named `r_tacpy.sh`, that retrieves the output of the command `cat passwd`, and then, starting with the second one, displays one line out of two by reversing each letter of each login.

They will be sorted in reverse order, and will only save logins between `MY_LINE1` and `MY_LINE2`, separated by a comma, and ending with a point and a line break.



`MY_LINE1` and `MY_LINE2` are environment variables.

Between lines 24 and 42 the result might be:

```
Terminal
~/B-CPE-100> z_iew, z_idauoj, z_hcinh, z_habsem_ante, z_guomah, z_girdor,
z_farhca, z_evuohc, z_ettorb, z_etset, z_etanok, z_elliap, z_ehkuob, zeek, zdud,
z_dnarud, z_dahuob, z_cdadah, z_azhral_ante.
```