

B1 - Unix & C Lab Seminar

B-CPE-100

Day 03

First C Programming



 $\{ \mathsf{EPITECH} \}$



Day 03

language: C



• The totality of your source files, except all useless files (binary, temp files, obj files,...), must be included in your delivery.



- Arrays and strings are **forbidden** for every task.
- Don't push your main function into your delivery directory, we will be adding our own. Your files will be compiled adding our main.c and our $my_putchar.c$ files.
- You are only allowed to use the $my_putchar$ function to complete the following tasks, but **don't push it** into your delivery directory, and don't copy it in *any* of your delivered files.
- If one of your files prevents you from compiling with *.c, the Autograder will not be able to correct your work and you will receive a O.



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

The delivery directory is specified within the instructions for each task. In order to keep your repository clean, pay attention to gitignore.





TASK 00 - CODING STYLE

At Epitech, every C code must comply with our Coding Style: epitech_c_coding_style.pdf.



Read it carefully! The code quality is an important factor and will be evaluated!

In order to check if your project is compliant with the coding style (for the most part), you can use the <code>coding-style.sh</code> script available in this github repository.
Using it is very simple:

- 1. Ensure that Docker is installed on your machine.
- 2. Clone the Epitech coding style checker scripts repository.
- 3. Launch the script with two parameters:
- 4. the path to the directories with your source code
- 5. the path were to put the report files containing the results
- 6. You have your results!



Docker and the script is preinstalled if you're using the official dump (just type coding-style in your shell).

Here's a basic example of how to use it:

```
Terminal

- + x

~/B-CPE-100> coding-style /path/to/your/repository .

~/B-CPE-100> cat coding-style-reports.log
```

TASK 01 - MY_PRINT_ALPHA

Delivery: my_print_alpha.c

Write a function that, beginning with **a**, displays the lowercase alphabet in ascending order, on a single line. It must be prototyped as follows:

```
int my_print_alpha(void);
```





TASK 02 - MY_PRINT_REVALPHA

Delivery: my_print_revalpha.c

Write a function that, beginning with **z**, displays the lowercase alphabet in descending order, on a single line. It must be prototyped as follows:

```
int my_print_revalpha(void);
```

TASK 03 - MY_PRINT_DIGITS

Delivery: my_print_digits.c

Write a function that displays all the digits, on a single line, in ascending order. It must be prototyped as follows:

```
int my_print_digits(void);
```

TASK 04 - MY_ISNEG

Delivery: my_isneg.c

Write a function that displays either **N** if the integer passed as parameter is negative or **P**, if positive or null. It must be prototyped as follows:

```
int my_isneg(int n);
```



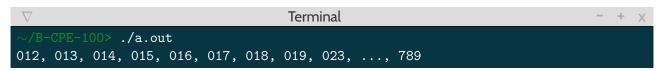


TASK 05 - MY_PRINT_COMB

Delivery: my_print_comb.c

Write a function that displays, in ascending order, all the numbers composed by three **different** digits numbers (012, 013, 014, 015, 016, 017, 018, 019, 023, ..., 789). Given three digits (all different), only the smallest number composed by those digits must be displayed. It must be prototyped as follows:

```
int my_print_comb(void);
```





Neither 987 nor 999 is to be displayed (as an example).

TASK 06 - MY_PRINT_COMB2

Delivery: my_print_comb2.c

Write a function that displays, in ascending order, all the different combinations of two two-digit numbers (00 01, 00 02, 00 03, 00 04, 00 05,...,01 99, 02 03,..., 98 99). It must be prototyped as follows:

```
int my_print_comb2(void);
```





TASK 07 - MY_PUT_NBR

Delivery: my_put_nbr.c

Write a function that displays the number given as a parameter. It must be able to display all the possible values of an int, and must be prototyped as follows:

```
int my_put_nbr(int nb);
```



For instance, my_put_nbr(42) displays 42, my_put_nbr(0) displays 0, my_put_nbr(-2147483647) displays -2147483647.

TASK 08 - TESTING

Delivery: tests/tests_my_put_nbr.c

It is highly recommended to test your functions as you develop them. It is common practice to create a function named main (and a designated file to host it) to check the functions separately. Create a directory named tests.

Create a main function within a file named tests_my_put_nbr.c, to be stored in the tests directory. This function must contain all the necessary calls to my_put_nbr in order to cover all of the function's possible situations (both regular or irregular).

For instance, for the my_isneg function, you could have a file similar to the following:



Testing is an important part of software development. There is no excellence without testing.





TASK 09 - MY_PRINT_COMBN

Delivery: my_print_combn.c

Write a function that displays, in ascending order, all the numbers composed by $n\$ different digits numbers ($n\$ being given as a parameter). Given $n\$ digits (all different), only the smallest number composed by thoses digits must be displayed. It must be prototyped as follows:

int my_print_combn(int n)



my_print_combn(3) gives the same result as my_print_comb.

