

# Basic Algorithms and Programming

## Practice 1

4TPU140U

On linux and MacOSX, python is yet installed. On Windows, you have to install python from <https://www.python.org/downloads/windows/>.

### Basic program

#### Exercise 1

Open an editor of text that saves text in an ASCII format. On linux, you can use “gedit” or “emacs”. On windows, you can use “idle” that was automatically installed with the python interpreter.

Write a program that prints, on the terminal, the text “Hello world!”. Save your program in a file whose filename is `hello_world.py`.

Open a terminal and executes your program. On windows, “idle” allows you to run, graphically, your program without using a terminal.

#### Exercise 2

Ask to the user three numbers and give the maximum value of these ones.

#### Exercise 3

You have to manage the schedule of your lab, the user gives to you the time when he begins the experiment and its duration. You have to compute and display to him the time when it will be finished.

To facilitate the program code, follows these way to do :

- Ask the hour at which he begins.
- Ask the minutes at which he begins.
- Ask the duration in minutes .
- Display the hour and the minutes he will finish.

#### Exercise 4

Ask to the user a date : day, month (the number) and year.  
Display the date of the tomorrow.

# Loop

## Exercice 5

For these exercises write a version with `for` and with `while` instructions.

- Write a program which ask 10 numbers to the user and display the maximum value.
- Write a program which compute the sum of 10 numbers given by the user.

## Exercice 6

- Ask to the user to give a number until he gives 0 and display the sum.
- Ask to the user a chain of several letters `ACGT` and tell if the motif `AGT` is included in this chain.

This document was adapted by Adrien Boussicault from a work of Marie Beurton-Aimar (2021).