



**Level:** 1st year of computer science  
**Course:** ADS1

**Academic year:** 2025/2026  
**Chapter 1 :** Introduction

## Exercise series: Tutorial (TD) N°: 01

### Exercise 1 :

Answer true or false:

- a) The most important component of the computer is the screen and mouse.
- b) The data is saved on the CD in the form of 0s and 1s, which can be viewed with a magnifying glass.
- c) The algorithm is independent of any specific implementation.
- d) The algorithm can be written in Arabic.
- e) The order of operations in an algorithm is not important.
- f) A false algorithm can lead to a correct result.
- g) For an algorithm to be valid, it must produce valid outputs in all cases of the problem.

### Exercise 2:

Write an algorithm that allows you to have a meal in a restaurant.

### Exercise 3:

Show in diagram form the inputs, outputs and relationships between them for the following algorithms:

- The four arithmetic operations on two numbers. (+ is in the classroom, and /, -, \* are done at home).
- Solving a first-degree equation ( $A X + B = 0$ ) where  $A \neq 0$ .
- Registration of a first-year student.
- The sum of natural numbers less than N.

### Exercise 4:

If we had three buckets. The first bucket "B1" is full with a capacity of 10 liters, the second bucket "B2" is empty with a capacity of 7 liters, and the third bucket "B3" is empty with a capacity of 3 liters. Write the algorithm that allows us to obtain 5 liters.

### Exercise 5: (at home)

A farmer has a sheep, a wolf, and a pile of grass. Write an algorithm that allows the farmer to transport the sheep, wolf, and grass to the other side of the river using a boat that can only carry one thing (sheep, wolf, or grass) at a time, without leaving the wolf alone with the sheep or the sheep alone with the grass.

## Practical Work (lab session) N°: 01

1. Create a source file and enter the following program:
2. Save the program under the name "MyFirstProg". and check the file extension.
3. Compile the program.
4. Correct (in the editor) any errors reported by the compiler.
5. Repeat steps 3 and 4 until the compilation process has been successfully completed.
6. Run the program.
7. Writing "Welkome" instead of "Welcome". Is it a programming error? (correct it).
8. Use the copy-paste technique to display the word "Welcome". 10 times.
9. Use the "Replace" command (from the search menu) to display "Hello". instead of "Welcome".
10. Run the program by double-clicking directly on the application file.
11. Add the **getch();** line before **return 0;** and redo 10
12. Open the "MyFirstProg.c" file using Notepad.
13. Open the file "MyFirstProg.exe". using Notepad.

```
#include <stdio.h>
int main() {
    printf("Welkome\n")
    return 0;
}
```