Level: 1st year of computer science | **Academic year:**2023/2024
Course: ADS1 | **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≠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: (à domicile)
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 (TP) N°: 01

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

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.