



# How many are the typologies of algorithms ?

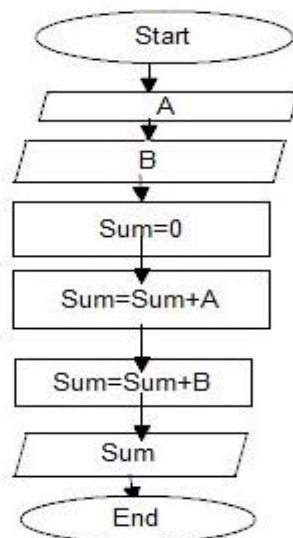
## Brainstorm on "typologies of algorithms"

The topologies of algorithm are different for different problem that they must solve.

The theorem Böhm-Jacopini, as set out in 1966 by Corrado Böhm and Giuseppe Jacopini says that any algorithm can be implemented using only three structures, sequence, selection and loop.

In this lesson will we make the following examples:the sequence; conditional at one output; conditional at two outputs.

**The "sequence"** is the normal list of instructions that are executed one after the other in the order they were written by the programmer. In a "sequence" there aren't condition, there aren't repetition (Every instruction is executed only one time) .



Example: Data in input two numbers A and B compute their sum and displays the results

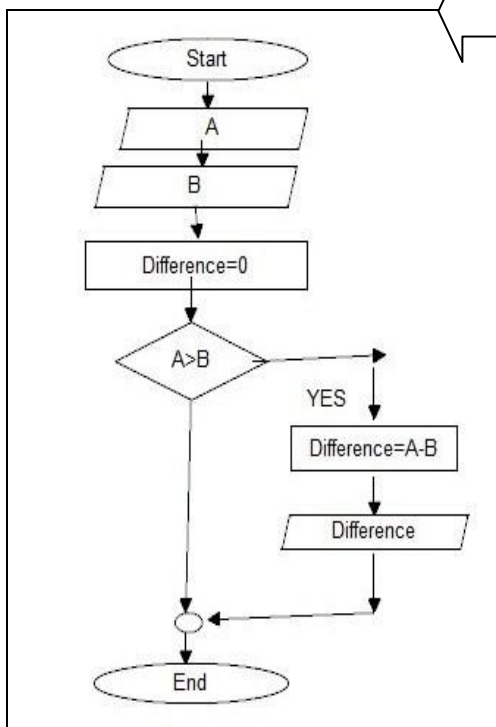
**Exercise 5:** Try designing a sequential algorithm to your liking.

# How many are the typologies of algorithms ?

The "select" is a choice between two paths to follow later, depending on a condition that can be true or false. There are two topologies of "conditional algorithm": algorithm conditional at one output and algorithm at two outputs.

The algorithm conditional at one output: if condition is true then there is alternative instruction ; if condition is not true instruction go in sequence.

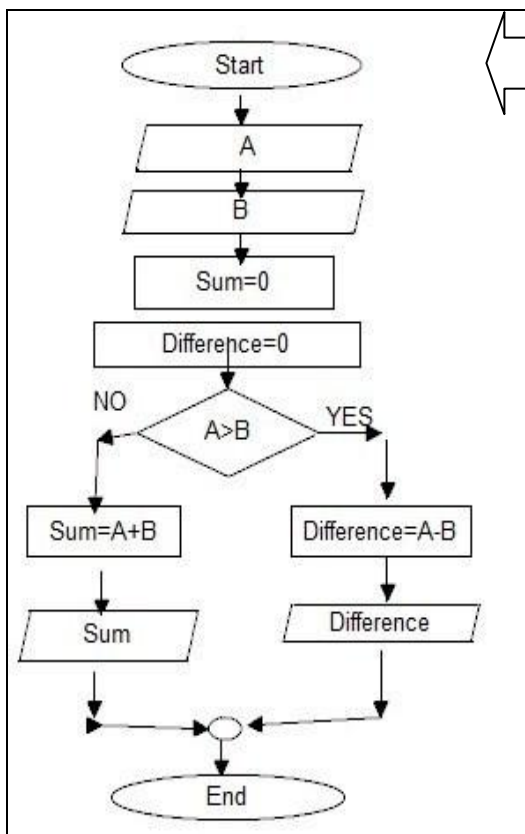
Example: Data in input two numbers A and B if A is greater of B then compute their difference A-B and displays the results



Exercise 6: Try designing a conditional algorithm, with one output, to your liking.

# How many are the typologies of algorithms ?

**The algorithm conditional at two output :** if condition is true then there is instructions ; if condition is false there is other instructions.



Example: Data in input two numbers A and B if A is greater of B then compute their difference A-B else compute their sum A+B and displays the sum and the difference

**Exercise 7:** Try designing a conditional algorithm with two output to your liking.