***PYTHON***

## Algorithm

* + The algorithm for adding two integers must be based on the use of standard logical operations which have direct hardware implementation (AND, OR, XOR, NOT)
  + It can use additional data processing operations which might be necessary to manipulate the data (i.e., input/output operations, type conversion operations, information retrieval operations, bitwise data processing operations, etc.)
  + The algorithm must be specified using pseudocode, structured English, or plain text.
  + The algorithm can be illustrated using a diagram.

## Data Structures

* + The programming should be done using data structures and operations in Python for input/output, character and string processing, logical or bitwise manipulations.
  + It can use any primitive or complex data structures which might be necessary for holding the data (pairs, lists, strings, dictionaries, etc.)
  + The choice of data structures must be specified in the report.

## Program

* + The program must work in a loop, reading two integer numbers, computing the sum of them and printing out the result until instructed to quit.
  + The program must check the input data for the data type permitted (representation of an integer) and the data value limitations. The value of the integer must not exceed the actual size of byte-coded integers, i.e. min 00000000 and max 11111111 in Base2. That means min 0 and max 255 in Base 10 for positive integers, or min 11111111 and max 01111111 in Base 2, or min -127 and max +127 in Base 10 for signed integers.
  + The program must be implemented in a modular way with separate functions for inputting data, bit operations, integer operations and outputting the result of the calculation.

## Description

* + The program must be described in terms of its structure and behaviour.
  + It can be presented using text and structural charts, flowcharts or other diagrams as needed.

## Testing

* + The tests must be performed using suitable test data (i.e., normal data, max/min boundary values, wrong data types, wrong values)
  + The testing can be presented using screen shots of the execution.
  + The program testing must be described in terms of test cases (or scenarios), input data, expected results, actual results, and analysis of the results (pass/fail). They can be presented in a table, reporting each test case separately. Program execution screen shots can be used for illustration.