

## Solving simple problems with Python



### Objectives

*Using Python to solve simple problems*

- Implement simple programs using Python
- Solve simple problems using read/write instructions, conditional, loops
- Implement functions



### Requirements

Write an application to deal with all of the requirements below. Implement functions to read data, process data and display output results. Use procedural programming and feature-driven development.

The application should allow the following:

- Create a list of natural numbers  
*ex. my\_list = [5, 8, 4, 7]*
- Convert a list of natural numbers to string
- Determine the sum of elements from the list which are powers of 2  
*ex. my\_list = [5, 8, 4, 7], then sum is 12 = 8 + 4*
- Filter the elements from the list which are not powers of 2  
*ex. my\_list = [5, 8, 4, 7], then result\_list = [5, 7]*
- Delete from the list the sequence starting from the first even number to the last even number in the list.  
*ex. my\_list = [5, 8, 4, 7, 2, 3] becomes [5, 3]*
- Delete all even numbers in a list.  
*ex. my\_list = [5, 8, 4, 7, 2, 3] becomes [5, 7, 3]*
- Shift to the beginning of the list the longest sequence of even numbers  
*ex. my\_list = [5, 2, 4, 7, 6, 8, 4, 3], then result\_list = [6, 8, 4, 5, 2, 4, 7, 3]*