Programming I (Python)
Mid Term Examination (Practical)

1. Write a program that takes an integer as input (variable `inp` in `lyear_input.py`) and outputs (variable `output`) if it is a leap year or not.

   (**code:** `lyear.py`)

2. Write a program that takes two sides of a right-angled triangle as inputs (variables `a` and `b` in `hyp_input.py`) and outputs (variable `output`) the length of the hypotenuse.

   (**code:** `hyp.py`)

3. Given a list and an integer n (variables `lst` and `n` respectively in `lshift_input.py`), write a program to rotate towards left the list by n elements.

   For example: `l = [1,2,3,4,5]` and `n=2`, then the answer should be `output=[3,4,5,1,2]`.

   (**code:** `lshift.py`)

4. (a) Write a function `mysum(l)` that returns the sum of numbers in `l`. `mysum` *must not* use the library `sum` method.

   (b) Write a function `average` that returns the average marks. `average` should make use of the function `mysum`.

   (c) Write a function `sqsum(l)` that returns the sum of all numbers in parameter `l`. `sqsum` should use list comprehension and `mysum`.

   (d) Write a function `sd` that computes the standard deviation of all the marks. `sd` should use both `average` and `mysum`. The formula for standard deviation is as follows: $\sqrt{\frac{1}{N}\sum_{i=1}^{N}(x-\mu)^2}$

   (**code:** `sd.py`)