

## Python Tutorial: Basics

### 1) Time conversion

Write a program that converts  $10^7$  seconds to years. Print the result with 2 decimal places. Run your program in different ways:

1. In Spyder
2. Calling the command `python3 myFile.py` from a terminal

### 2) Approximating factorials

Large factorials can be approximated via the Stirling formula  $S$  as follows:

$$n! \approx \sqrt{2\pi n} \left(\frac{n}{e}\right)^n := S$$

Write a program that computes the Stirling formula for a given value of  $n$ .

### 3) Roots of the quadratic equation

We want to compute the two roots of the quadratic equation  $ax^2 + bx + c = 0$ .

1. Define a list called `coeffs` with three elements of type float corresponding to the values of  $a$ ,  $b$  and  $c$ . You can choose whatever values you want.
2. Use this list to compute the two roots of the quadratic formula. Store the values of the two roots in a tuple called `roots`.
3. Print the values of the roots with 5 decimal places.