

# Week 2 Homework

## Problem 1:

Write a function that creates a list of all three letter strings with letters in the lower-case of the English alphabet.

## Problem 2:

Write a function that translates a string as follows: Each vowel is transformed into the next vowel: a -> e, e->i, i->o, o->u, u->a. Thus, "Emil Lie" becomes "Imol Loi".

## Problem 3:

Write a function that creates a list of the first 20 Sylvester numbers. Sylvester numbers are recursively defined by  $a_0 = 2$  and the recurrence  $a_{i+1} = a_i \cdot a_{i-1} \cdot a_{i-2} \cdot \dots \cdot a_0 + 1$ . The list starts out with [2,3,7,43, ... ].

## Problem 4:

Write a program that takes an integer and returns a string, containing the integer but with groups of three digits set apart by commata. For example, 12345678 becomes 12,345,678.