Case #1 Trade market of new cars (group #1)

There are four dealerships connected with Ford, Chevrolet, Toyota, and GM. The buyers current priorities between these car's models is described by the following table (initial transition matrix A1)

	From Ford	From Chevrolet	From GM	From Toyota
To Ford	15%	10%	5%	10%
To Chevrolet	25%	25%	15%	15%
To GM	10%	30%	50%	25%
To Toyota	50%	35%	30%	50%

The initial distribution of buyers is: $x_0 = \begin{bmatrix} 1000 \\ 1000 \\ 1000 \\ 1000 \end{bmatrix}$

How will change the distribution of cars buyers if after 3 years would be opened addition Volvo dealership?

New transition matrix A2 will be the following:

	From Ford	From Chevrolet	From GM	From Toyota	From Volvo
To Ford	15%	9.5%	5%	10%	0.5%
To Chevrolet	24.5%	25%	14%	14.5%	0.5%
To GM	9.5%	29.5%	50%	24.5%	1%
To Toyota	50%	35%	30%	50%	1%
To Volvo	1%	1%	1%	1%	97%

The initial numbers of Volvo's buyers will be 100.

Calculate the distribution of buyers after 1,2,3,4,5,6 years.

Let $x-1$ denote the population one year prior to initial one. Calculate $x-1$.

Demonstrate that given approach has/has not always been an accurate model for population distribution.