

Attendance Quiz for Lecture 6 of Dr. Z.'s Dynamical Models in Biology class

Name: (print!)

Email: (print!)

1. Suppose that at year $t = 0$ there were 1 0-year-olds, 2 1-year-olds, 3 2-year-olds, 4 3-year-olds.

For the following Leslie matrices answer

(i) How many 0-year-olds at time $t = 3$? (give the Maple command that does it)

(ii) in the long run will the population increase exponentially? decrease exponentially? stay stable?

$$A = \begin{bmatrix} 0 & 2 & 3 & 2 \\ 0.4 & 0 & 0 & 0 \\ 0 & 0.3 & 0 & 0 \\ 0 & 0 & 0.3 & 0 \end{bmatrix}$$

$$B = \begin{bmatrix} 0 & 0.8 & 0.8 & 0.9 \\ 0.6 & 0 & 0 & 0 \\ 0 & 0.8 & 0 & 0 \\ 0 & 0 & 0.9 & 0 \end{bmatrix}$$

$$C = \begin{bmatrix} 0 & 1.2 & 1.3 & 1.4 \\ 0.4 & 0 & 0 & 0 \\ 0 & 0.3 & 0 & 0 \\ 0 & 0 & 0.3 & 0 \end{bmatrix}$$