

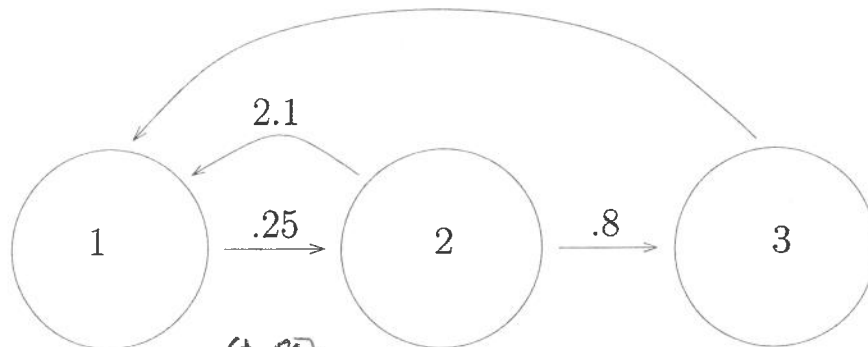
Quiz 31

Name: Key

You must show your work to get full credit.

1. Write the Leslie matrix for the loop diagram:

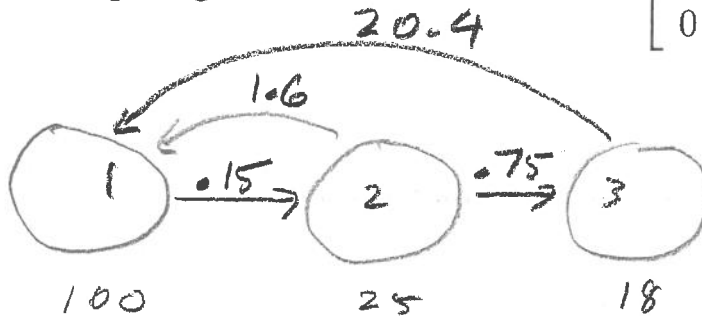
4.8



$$L = \begin{bmatrix} 0 & 2.1 & 4.8 \\ .25 & 0 & 0 \\ 0 & .8 & 0 \end{bmatrix}$$

2. Make the loop diagram for the Leslie matrix

$$\begin{bmatrix} 0 & 1.6 & 20.4 \\ .15 & 0 & 0 \\ 0 & .75 & 0 \end{bmatrix}.$$



3. In the Leslie matrix of Problem 2:

- (a) What does the number .75 mean?

The proportion of stage 2 individuals that survive to stage 3

- (b) What number 20.4 mean? The average number of offspring of a stage 3 individual that survive to the next year

4. If this year that are 100 in stage 1, 25 in stage 2, and 18 in stage 3 compute the following:

$1.6(25) + 20.4(18)$ The number in stage 1 next year. 407.2

$.15(100)$ The number in stage 2 next year. 15

$.75(25)$ The number in stage 3 next year. 18.75