

MAT343 Last Project

Loggerhead Turtle Population : see project 1.8

In project 1.8, the last Lesley matrix (the one most favorable to the Loggerhead turtle population) was:

$$L = \begin{pmatrix} 0 & 0 & 0 & 0 & 127.0000 & 4.0000 & 80.0000 \\ 0.6747 & 0.7971 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0.0829 & 0.6611 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0.0147 & 0.6907 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0.0518 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0.8091 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0.8091 & 0.8088 \end{pmatrix}$$

Find the eigenvalues. Find the maximum modulus of all eigenvalues. In the long run, by what percentage will the total population decrease annually?