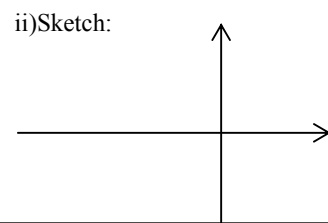


Q1. (a) Describe and Sketch the Gershgorin's Circles for

$$A = \begin{bmatrix} 1 & 0 & 1 & 0 \\ 0 & 0 & -4 & 0 \\ 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 \end{bmatrix} :$$



i) Table for Describing the circles (Center, Radius):

--	--

(b) Write the Characteristic equation of

(c) Find the eigenvalues of A

(d) Based on the answer Tick the correct answer:

- i. A must be diagonalizable .
 ii. A can not be diagonalizable .
 iii. A may or may not be diagonalizable .

(e) Find the eigenvector(s) of A only corresponding to the eigenvalue $\lambda = 1$.