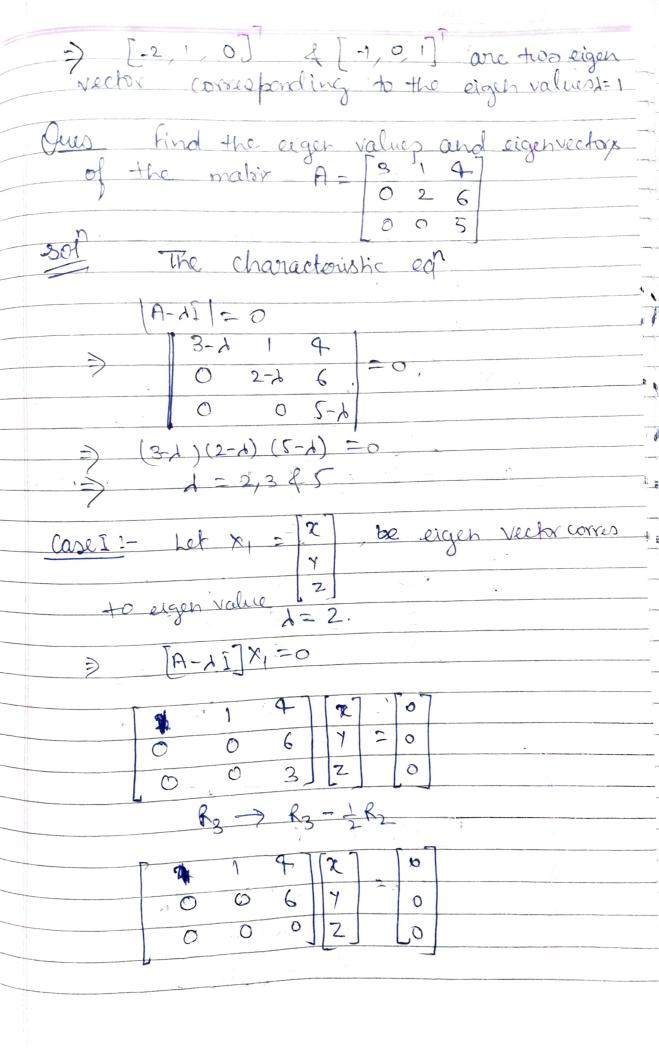
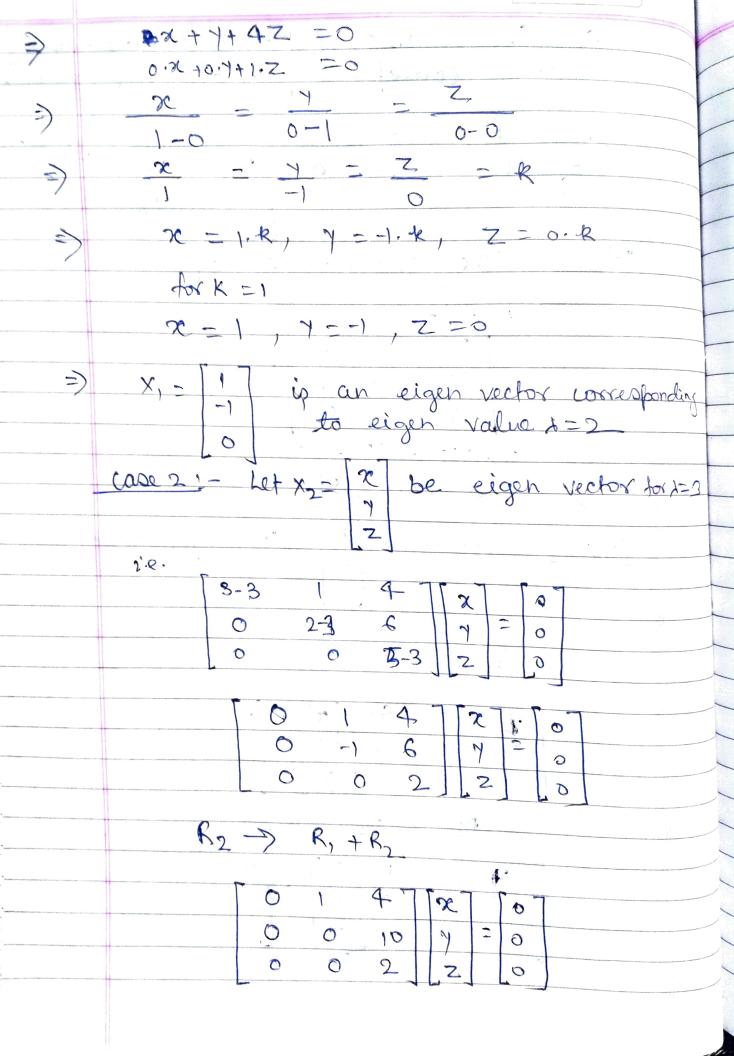
Just find Eigen values and Eigen Vector of matrix A = [2.2] The characteristic equation of matrix A A-11 =0  $\begin{vmatrix} 2-\lambda & 2 & 1 \\ 1 & 3-\lambda & 1 \\ 1 & 2 & 2-\lambda \end{vmatrix} = 0$ = -  $(\lambda - 1)(\lambda - 6\lambda + 5) = 0$ = 1, 1, T ( Rigen values of A). cases: Let X, = 2 be eigen vector for 1=5 Then A-45 1x, = 0  $\begin{bmatrix} -3 & 2 & 1 & x \\ 1 & -2 & 1 & y \\ 2 & -3 & 2 \end{bmatrix} = \begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$ 

Case II: - 1 for A = 1, Let x2 = 1 1/2 19 eigen vector 1 2 1 x 0 1 2 1 y = 0 1 2 1 z 0  $R_2 \rightarrow R_2 - R_1$ ,  $R_3 \rightarrow R_3 - R_1$ 1 2 1 7 0 0 0 0 7 = 0 0 0 0 Z 0 2+27+2=0 Let y= k, & Z=k 





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