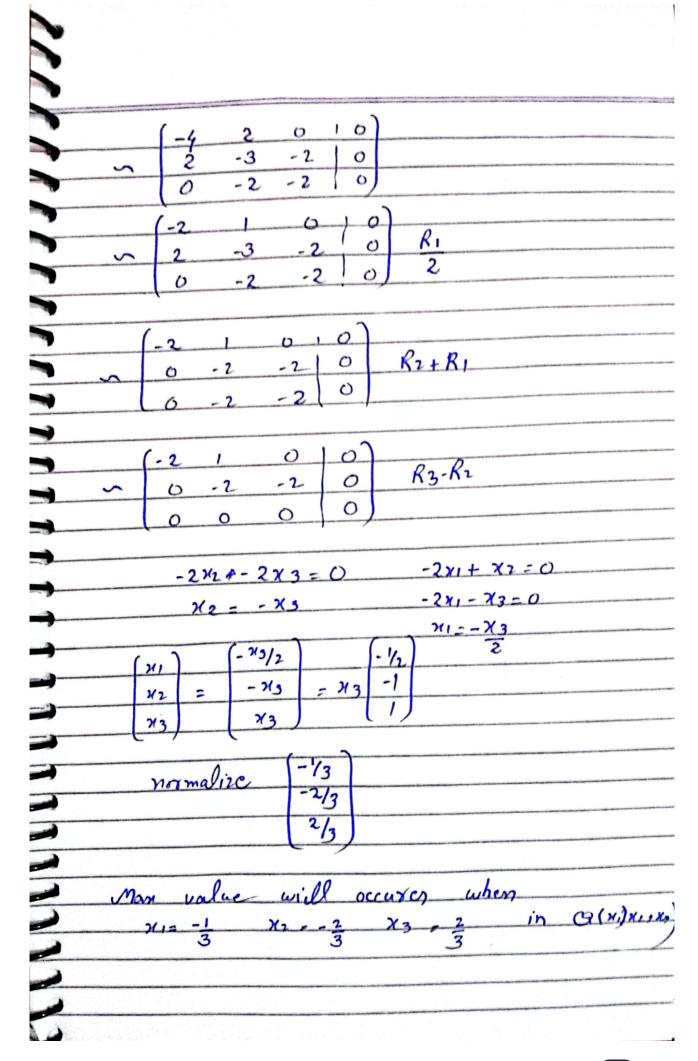


Question No: Eliminate the cross products =0

Q(x1, x2,2x3) in termy of new version bles λι g,2 + λυ g, 1 + λ3 ys2 = 1 y,2 + 7/22 + 4/32 = 1 -8(C)&-Hentity the Quadric Surt. 112 + 82 + 03 = 1 is an equation ellipsoid. Classify the Matrix all eign values are the &(C) Eign vector corresponding to 1=7



Minimum value of Q(x1,x1,x3) is=	
Eign vector corresponding to)=1	
(2 2 0 0)	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	
(0 -2 9 0)	
~ 0 1 -2 0 R2-R,	
(0 -2 4 0)	
$\sim \begin{pmatrix} 2 & 2 & 0 & 0 \\ 0 & 1 & -2 & 0 \end{pmatrix} R_{3+2}R_{1}$	
(0 0 0 10)	
$2x_1 + 2x_2 = 0$ $2x_1 + 2x_2 = 0$	
$x_2 = 2x_3$ $2x_1 + 4x_3 = 0$	
$\begin{pmatrix} x_1 \end{pmatrix} \begin{pmatrix} -2x_3 \end{pmatrix} \begin{pmatrix} -2 \end{pmatrix}$	
$\begin{vmatrix} y_1 \\ y_2 \end{vmatrix} = \begin{vmatrix} 2y_3 \\ 2y_3 \end{vmatrix} = \begin{vmatrix} 2 \\ 2 \end{vmatrix}$	
(x3) (x3) (1)	
line [-2/3]	
2/3	
$\left(\begin{array}{c} 1/3 \end{array} \right)$	
Minimum value will occure when	
Minimum value will occure when $x_1 = -\frac{1}{3}$ $x_2 = \frac{1}{3}$ $x_3 = \frac{1}{3}$ in	-
3 3	
Q(x1, x2 , x3)	

?		
ce(f)eo		
Expl	Pain the role of Injue Minimum / Morning	
	O(n1) x21x3) ore furitive therefore (x1) x21x3) is firstive definite	
	This implies that Q(x1,212) is faictely convex function. A staictly nven function has a unique plobal	
7 m	ninimum ·	
-) -> ->		
-) -)		