

Assignment PartA

Multivariate calculus: $f(x_1y,z) = x^2 + 6xy + y^2 - 2y2 + 4z^2$ -10x - 5y - 21zTo find local Minima, maxime or Saddle point, following steps have -) find aradient Victor find contrical points

find Hessian vector test for Sylvester's criterion for nan Hessian.

$$3/= 2x + 6y - 10$$

$$6x + 2y - 32 - 5$$

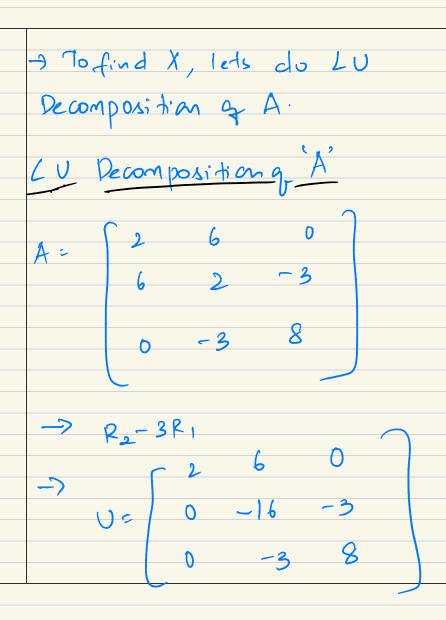
$$-3y + 8z - 21$$

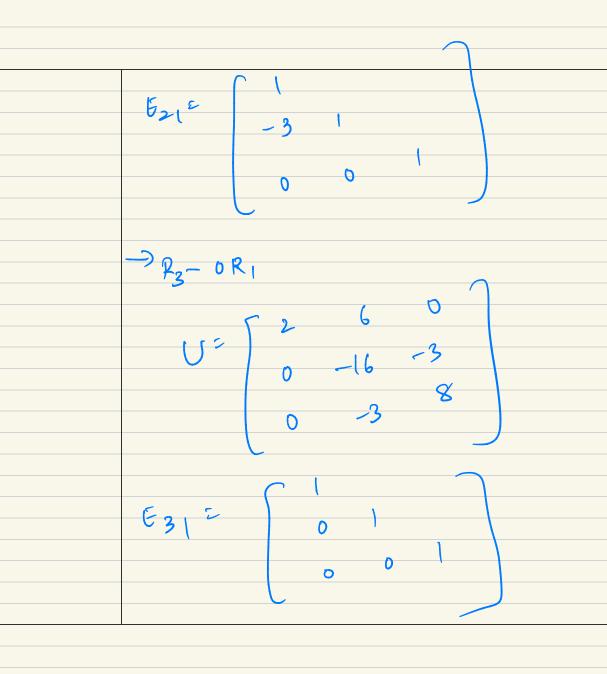
$$3 representing this as a$$

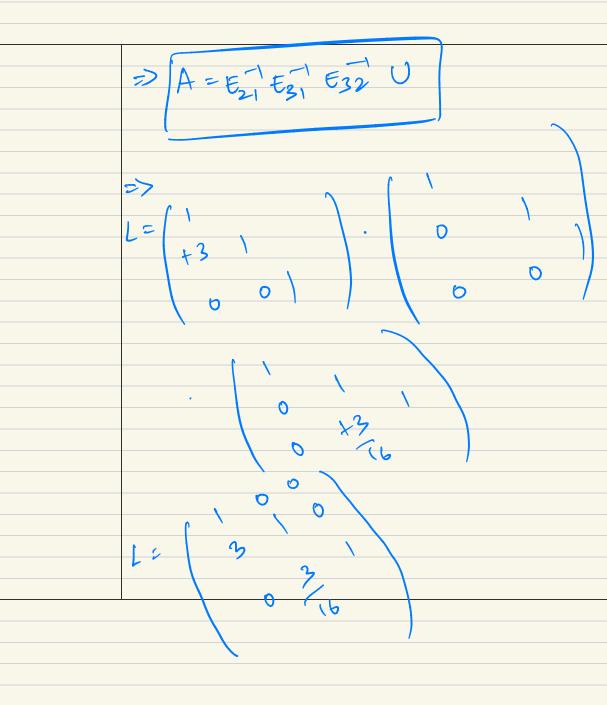
- representing this as a system go

equations mouth

$$\rightarrow Ax = 0$$







$$y_{3} = 21 - \frac{3}{3}y_{2} = 21 - \frac{3}{3}x - 25$$

$$y_{3} = 21 - \frac{3}{16}y_{2} = 21 - \frac{3}{16}x - 25$$

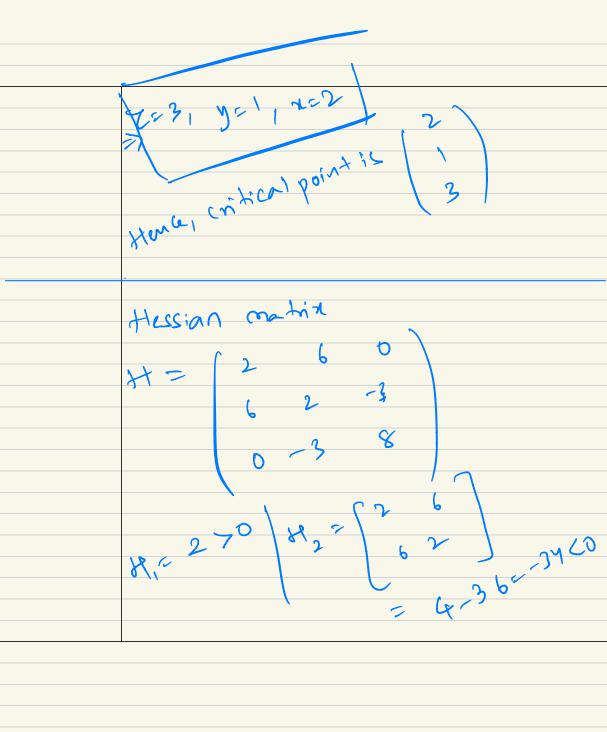
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Hz det (H)= LO

yeur it is a saddle point.