



Ass: Mateus Henrique Souza Silva  
Mateus Henrique Souza Silva

2 - N/A

4 - N/A

5 - N/A



Matheus Henrique Souza Silva

DATA

03 -

$$A = \begin{bmatrix} a & -2b & a+2b & -a-2b-3c \end{bmatrix}$$

MATEUS HENRIQUE  
SOUZA SILVA

$$C = \begin{bmatrix} 1 & 1 & 1 \\ a & b & c \\ 1 & 1 & 1 \end{bmatrix}$$

$$R = \begin{bmatrix} 1 & 0 & 1 & -1 \\ 0 & -2 & 2 & -2 \\ 0 & 0 & 0 & -3 \end{bmatrix}$$

$$A = CR$$

$$A = \begin{bmatrix} 1 & 1 & 1 \\ a & b & c \\ 1 & 1 & 1 \end{bmatrix} \begin{bmatrix} 1 & 0 & 1 & -1 \\ 0 & -2 & 2 & -2 \\ 0 & 0 & 0 & -3 \end{bmatrix}$$

$$= \begin{bmatrix} 1 & 1 & 1 & 1 \\ a & -2b & a+2b & -a-2b-3c \\ 1 & 1 & 1 & 1 \end{bmatrix}$$

Matr. Henrique Sousa

Série: /

$$6. A) \begin{bmatrix} -0.761 & 0.475 & -0.441 \\ -0.552 & -0.832 & 0.057 \end{bmatrix}$$

Não é quadrada

$$B) \begin{bmatrix} -0.672 & 0.544 & 0.142 \\ -0.671 & -0.158 & -0.710 \\ -0.315 & -0.824 & -0.689 \end{bmatrix}$$

$$\det(B) = -0.672 \cdot \det \begin{bmatrix} -0.158 & -0.710 \\ -0.824 & -0.689 \end{bmatrix} - 0.544 \cdot \det \begin{bmatrix} -0.671 & -0.710 \\ -0.315 & -0.689 \end{bmatrix} +$$

$$\det(B) \neq 1$$

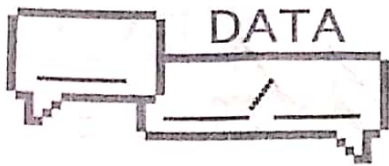
$$0.142 \cdot \det \begin{bmatrix} -0.671 & -0.158 \\ -0.315 & -0.824 \end{bmatrix}$$

$$C) \begin{bmatrix} -0.761 & 0.475 & -0.441 \\ -0.552 & -0.832 & 0.057 \\ -0.374 & 0.316 & 0.986 \end{bmatrix}$$

$$\det(C) = -0.761 \cdot \det \begin{bmatrix} -0.832 & 0.057 \\ 0.316 & 0.986 \end{bmatrix} - 0.475 \cdot \det \begin{bmatrix} -0.552 & 0.057 \\ -0.374 & 0.986 \end{bmatrix} +$$

$$\det(C) \neq 1$$

$$-0.441 \cdot \det \begin{bmatrix} -0.552 & -0.832 \\ -0.374 & 0.316 \end{bmatrix}$$



Matr Henrique Goya Silva  
MATEUS HENRIQUE GOMES SILVA

$$D) \begin{bmatrix} -0.761 & 0.475 & -0.441 \\ -0.552 & -0.832 & 0.057 \\ -0.340 & 0.287 & 0.896 \end{bmatrix}$$

$$\text{DET}(D) = -0.761 \cdot \text{DET} \begin{bmatrix} -0.832 & 0.057 \\ 0.287 & 0.896 \end{bmatrix} - 0.475 \cdot \text{DET} \begin{bmatrix} -0.552 & 0.057 \\ -0.340 & 0.896 \end{bmatrix}$$

$$\boxed{\text{DET}(D) = 1}$$

E) MATRIZ NÃO QUADRADA

$$+ (-0.441) \cdot \text{DET} \begin{bmatrix} -0.552 & -0.832 \\ -0.340 & 0.287 \end{bmatrix}$$



Matheus Henrique Souza Silva

MATHEUS HENRIQUE SOUZA SILVA

$$7 - S = \begin{bmatrix} -3 & 9 \\ ? & ? \end{bmatrix}$$

$$\det([I-3]) = -3$$

NÃO É DP, POIS TODOS OS DET.

DOS MENORES PRINCIPAIS LÍDERES

$$\det \begin{pmatrix} -3 & 9 \\ 9 & 9 \end{pmatrix} = 9$$

DEVE SER  $> 0$ .

$$G = Q \begin{bmatrix} ? & 0 \\ 0 & ? \end{bmatrix} Q^T$$

DEPENDE DE ?

$$= Q Q^T \begin{bmatrix} ? & 0 \\ 0 & ? \end{bmatrix}$$

$$= I \begin{bmatrix} ? & 0 \\ 0 & ? \end{bmatrix}$$

$$= \begin{bmatrix} ? & 0 \\ 0 & ? \end{bmatrix}$$

$$A = \begin{bmatrix} 1 & 0 & ? \\ ? & -3 & ? \\ 0 & 0 & 5 \end{bmatrix}$$

$$B = \begin{bmatrix} 1+(9 \cdot 9) & -3 \cdot 9 & 9+(9 \cdot 9) \\ -3 \cdot 9 & 9 & -3 \cdot 9 \\ 9+(9 \cdot 9) & -3 \cdot 9 & (9 \cdot 9)+(9 \cdot 9)+25 \end{bmatrix}$$

$$B = A^T A$$

B é matriz simétrica, portanto B é DP.

$$B = \begin{bmatrix} 1 & 9 & 0 \\ 0 & -3 & 0 \\ ? & ? & 5 \end{bmatrix} \quad \begin{bmatrix} 1 & 0 & ? \\ 9 & -3 & ? \\ 0 & 0 & 5 \end{bmatrix}$$



Matheus Henrique Braga Silva  
Marcelo Henrique Braga Silva

$$C = \begin{bmatrix} 1 & ? & 0 \\ 1 & ? & 1 \end{bmatrix}$$

$$E = C C^T$$

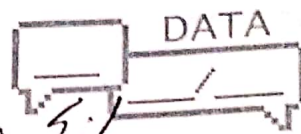
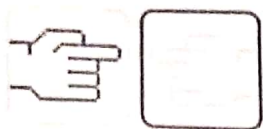
$$E = \begin{bmatrix} 1 & ? & 0 \\ 1 & ? & 0 \end{bmatrix} \begin{bmatrix} 1 & 1 \\ ? & ? \\ 0 & 1 \end{bmatrix}$$

$$= \begin{bmatrix} 1 + (? \cdot ?) & 1 + (? \cdot ?) \\ 1 + (? \cdot ?) & 1 + (? \cdot ?) \end{bmatrix}$$

$$F = C^T C$$

$$F = \begin{bmatrix} 1 & 1 \\ ? & ? \\ 0 & 1 \end{bmatrix} \begin{bmatrix} 1 & ? & 0 \\ 1 & ? & 0 \end{bmatrix}$$

$$F = \begin{bmatrix} 2 & (? \cdot ?) + (? \cdot ?) & 0 \\ ? + ? & (? \cdot ?) + (? \cdot ?) & 0 \\ 1 & ? & 0 \end{bmatrix}$$



8. N/A

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9. N/A