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LADE
BSSE-3B

Assignment 2

Question no 1

$$\begin{pmatrix} 1 & 3 \\ 0 & -2 \\ 5 & -1 \\ -2 & 3 \end{pmatrix}$$

Solve!

$$\begin{pmatrix} 1 & 3 \\ 0 & 1 \\ 5 & -1 \\ -2 & 3 \end{pmatrix} \quad (-1/2\ R2)$$

$$\begin{pmatrix} 1 & 3 \\ 0 & 1 \\ 5 & -1 \\ 0 & 9 \end{pmatrix} \quad (2\ R1 + R4)$$

$$\begin{pmatrix} 1 & 3 \\ 0 & 1 \\ 0 & 16 \\ 0 & 9 \end{pmatrix} \quad (5\,R1 - R3)$$

$$\begin{pmatrix} 1 & 3 \\ 0 & 1 \\ 0 & 16 \\ 0 & 0 \end{pmatrix} \quad (9\,R2 - R4)$$

$$\begin{pmatrix} 1 & 3 \\ 0 & 1 \\ 0 & 0 \\ 0 & 0 \end{pmatrix} \quad (16\,R2 - R3)$$

Question no 2

$$\begin{pmatrix} 1 & 2 & -3 \\ 2 & 1 & 0 \\ -2 & -1 & 3 \\ 1 & 4 & -2 \end{pmatrix}$$

Solve

$$\begin{pmatrix} 1 & 2 & -3 \\ 0 & -3 & 6 \\ -2 & -1 & 3 \\ 1 & 4 & -2 \end{pmatrix} \quad (2R1 - R2)$$

$$\begin{pmatrix} 1 & 2 & -3 \\ 0 & -3 & 6 \\ 0 & 3 & -3 \\ 1 & 4 & -2 \end{pmatrix} \quad (2R1 + R3)$$

$$\begin{pmatrix} 1 & 2 & -3 \\ 0 & -3 & 6 \\ 0 & 3 & -3 \\ 0 & 6 & -5 \end{pmatrix} \quad (R1 + R4)$$

$$\begin{pmatrix} 1 & 2 & -3 \\ 0 & -3 & 6 \\ 0 & 0 & 3 \\ 0 & 6 & -5 \end{pmatrix} \quad (R2 + R3)$$

$$\begin{pmatrix} 1 & 2 & -3 \\ 0 & 1 & -2 \\ 0 & 0 & 3 \\ 0 & 6 & -5 \end{pmatrix} \quad (-1/3\ R2)$$

$$\begin{pmatrix} 1 & 2 & -3 \\ 0 & 1 & -2 \\ 0 & 0 & 3 \\ 0 & 0 & 7 \end{pmatrix} \quad (-6\ R2 + R4)$$

$$\begin{pmatrix} 1 & 2 & -3 \\ 0 & 1 & -2 \\ 0 & 0 & 1 \\ 0 & 0 & 7 \end{pmatrix} \quad (1/3\ R3)$$

$$\begin{pmatrix} 1 & 2 & -3 \\ 0 & 1 & -2 \\ 0 & 0 & 1 \\ 0 & 0 & 0 \end{pmatrix}$$ (7 R3 – R4)