

BCADA 2321

Assignment 1

Due by 7th Feb 2023, 11:59pm

1. Show that $A = \begin{bmatrix} 2 & -1 & 3 & 2 \\ 1 & 4 & 0 & -1 \\ 2 & 6 & -1 & 5 \end{bmatrix}$ is row equivalent to $B = \begin{bmatrix} 0 & 0 & 1 & -\frac{11}{3} \\ 1 & 0 & 0 & \frac{17}{3} \\ 0 & 1 & 0 & -\frac{5}{3} \end{bmatrix}$ using elementary row operations.
2. Prove that the inverse operation of an elementary row operation exists and is an elementary row operation of the same type.
3. Prove that row equivalence is an equivalent relation.
4. Find the row reduced form of $A = \begin{bmatrix} 3 & -1 & 2 \\ 2 & 1 & 1 \\ 1 & -3 & 0 \end{bmatrix}$.