Tutorial Exercise Week 4

Qs. 1. Inverse by Gaussian Approach

Using the Gaussian Approach for finding the inverse of a Matrix, find the inverses of the following 2×2 matrices:

- $A = \begin{bmatrix} 6 & 1 \\ 2 & 8 \end{bmatrix}$
- $B = \begin{bmatrix} 3 & 2 \\ 1 & 4 \end{bmatrix}$

Qs. 2. Solving Simultaneous Equations via Matrix Inverse

For a Matrix M and vector, v, and constant vector, k, if

$$M * v = k$$

then

$$v = M^{-1} * k$$

provided, M^{-1} exists.
Solve the following Simultaneous Equations using the approach of Matrix Inverse.

- $2 * x + 3 * y = 13$
  $x - y = -1$

- $3 * x_1 + 2 * x_2 = 7$
  $-x_1 + x_2 = 6$