Assignment 2

Tanmay Goyal - AI20BTECH11021

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1 PROBLEM

(Matrix Q.2.48) Find AB, if A = $\begin{pmatrix} 0 & -1 \\ 0 & 2 \end{pmatrix}$ and B = $\begin{pmatrix} 3 & 5 \\ 0 & 0 \end{pmatrix}$

2 SOLUTION

We know matrix multiplication is a row-by-column multiplication. Thus,

$$AB = \begin{pmatrix} 0 & -1 \\ 0 & 2 \end{pmatrix}\begin{pmatrix} 3 & 5 \\ 0 & 0 \end{pmatrix} \quad (2.0.1)$$

$$= \begin{pmatrix} (0 \times 3) + (-1 \times 0) & (0 \times 5) + (-1 \times 0) \\ (0 \times 3) + (2 \times 0) & (0 \times 5) + (2 \times 0) \end{pmatrix} \quad (2.0.2)$$

$$AB = \begin{pmatrix} 0 & 0 \\ 0 & 0 \end{pmatrix} \quad (2.0.3)$$