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14 March 2023

Due Thursday 16 March 2023

Linear Algebra, Math 2101-002
Homework set #8

1. Do Exercise 4.2.5 from the book.

2. (a) Prove that $\mathcal{R}(AB) \subseteq \mathcal{R}(A)$, in other words, the range of the product is contained in the range of the first factor.

(b) Illustrate this statement by calculating the range of A and the range of AB with the following

example: $A = \begin{vmatrix} 1 & 1 & 2 \\ 1 & 0 & 1 \\ 2 & 1 & 3 \end{vmatrix}, B = \begin{vmatrix} 1 & 1 \\ 1 & 1 \\ -1 & 1 \end{vmatrix}.$