Written Assignment 2 : Due Wednesday, February 9

Problem 1: Show how you can flip two rows of a matrix using the other two row operations.

Problem 2: Suppose that \( u, w \in Span\{v_1, v_2, \ldots, v_k\} \). Show that \( u + w \in Span\{v_1, v_2, \ldots, v_k\} \).

Problem 3: Explain why if \( k < n \), then it is impossible to have \( k \) vectors which span \( \mathbb{R}^n \). In other words, show that if \( v_1, v_2, \ldots, v_k \) are vectors in \( \mathbb{R}^n \) and \( k < n \), then \( Span\{v_1, v_2, \ldots, v_k\} \neq \mathbb{R}^n \).