

# EE5609: MATRIX THEORY

## Assignment 2

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**Abstract**—This document contains the solution to addition of two matrices.

Git link for latex code

<https://github.com/ee19acmtech11009/EE5609/tree/master/Assignment2>

Git link for python code

<https://github.com/ee19acmtech11009/EE5609/tree/master/Assignment2/codes>

### 1 PROBLEM STATEMENT

Compute the following:

$$(i) \begin{pmatrix} a & b \\ -b & a \end{pmatrix} + \begin{pmatrix} a & b \\ b & a \end{pmatrix}$$

### 2 SOLUTION

Let  $\mathbf{C}$  is solution of  $\begin{pmatrix} a & b \\ -b & a \end{pmatrix} + \begin{pmatrix} a & b \\ b & a \end{pmatrix}$

$$\mathbf{C} = \begin{pmatrix} a & b \\ -b & a \end{pmatrix} + \begin{pmatrix} a & b \\ b & a \end{pmatrix} \quad (2.0.1)$$

$$\mathbf{C} = \begin{pmatrix} a+a & b+b \\ -b+b & a+a \end{pmatrix} \quad (2.0.2)$$

$$\mathbf{C} = \begin{pmatrix} 2a & 2b \\ 0 & 2a \end{pmatrix} \quad (2.0.3)$$