EE5609 Matrix Theory

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Download the python code from

https://github.com/kranthiakssy/AI20RESCH14002_PhD_IITH/tree/master/EE5609_Matrix_Theory/Assignment-3

and latex-file codes from

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Assignment-3

Problem:

Matrix Exercises (12(ii)) :
Compute the following.

$$\begin{pmatrix} a^2+b^2 & b^2+c^2 \\ a^2+c^2 & a^2+b^2 \end{pmatrix} + \begin{pmatrix} 2ab & 2bc \\ -2ac & -2ab \end{pmatrix}$$

Solution:

By applying matrix addition

$$= \begin{pmatrix} a^2+b^2+2ab & b^2+c^2+2bc \\ a^2+c^2-2ac & a^2+b^2-2ab \end{pmatrix} \tag{0.0.1}$$

$$= \begin{pmatrix} (a+b)^2 & (b+c)^2 \\ (a-c)^2 & (a-b)^2 \end{pmatrix} \tag{0.0.2}$$