

## Anticommutator example

Show that

$$\{\Sigma_i, \Sigma_j\} = 2\delta_{ij}$$

where

$$\Sigma_i = \begin{pmatrix} \sigma_i & 0 \\ 0 & \sigma_i \end{pmatrix}$$

and  $\sigma_i$  are the Pauli spin matrices.

Notes on the Eigenmath script:

1. The  $\Sigma_i$  matrices are formed using the **kronecker** product.
2. The vector  $\Sigma = (\Sigma_1, \Sigma_2, \Sigma_3)$  is defined so that **for** loops can be used.
3. Indices  $j$  and  $k$  are used instead of  $i$  and  $j$  to avoid overriding the imaginary unit  $i$ .

Eigenmath script