

The diagram illustrates the decomposition of a 3x3 matrix X into a sum of three 3x3 matrices. On the left, a white square with a black border contains the italicized letter X . In the center is an equals sign. On the right, three 3x3 matrices are summed, each represented by a 3x3 grid of squares. The first matrix has a light blue top row and white bottom two rows. The second matrix has a white top row and light blue middle and bottom rows. The third matrix has a white top row and light blue middle and bottom rows. All grid lines are blue.

$$X = \begin{bmatrix} \text{light blue} & \text{light blue} & \text{light blue} \\ \text{white} & \text{white} & \text{white} \\ \text{white} & \text{white} & \text{white} \end{bmatrix} + \begin{bmatrix} \text{white} & \text{white} & \text{white} \\ \text{light blue} & \text{light blue} & \text{light blue} \\ \text{light blue} & \text{light blue} & \text{light blue} \end{bmatrix} + \begin{bmatrix} \text{white} & \text{white} & \text{white} \\ \text{light blue} & \text{light blue} & \text{light blue} \\ \text{light blue} & \text{light blue} & \text{light blue} \end{bmatrix}$$