0.1 Identity matrix and the Kronecker delta

0.1.1 The Kronecker delta

The Kronecker delta is defined as:

p$\delta_{ij} = 0$ where $i \neq j$

$\delta_{ij} = 1$ where $i = j$

We can use this to define matrices. For example for the identity matrix:

$I_{ij} = \delta_{ij}$

0.1.2 Identity matrix

A square matrix where every element is 0 except where $i = j$. There is one for each square matrix.

$$I = \begin{bmatrix} 1 & 0 & \dots & 0 \\ 0 & 1 & \dots & 0 \\ \dots & \dots & \dots & \dots \\ 0 & 0 & \dots & 1 \end{bmatrix}$$