Linear Algebra Note

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Contents

Special Matrices

$$A = \begin{pmatrix} 0 & a_{12} & a_{13} & \cdots & a_{1,n-1} & a_{1n} \\ & 0 & a_{23} & \cdots & a_{2,n-1} & a_{2n} \\ & & 0 & \cdots & \vdots & \vdots \\ & & & \ddots & a_{n-1,n} & a_{n-2,n} \\ & & & & 0 & a_{n-1,n} \\ & & & & & 0 \end{pmatrix}$$

$$\Rightarrow A^2 = \begin{pmatrix} 0 & 0 & a_{13} & \cdots & a_{1,n-1} & a_{1n} \\ & 0 & 0 & \cdots & a_{2,n-1} & a_{2n} \\ & & 0 & \cdots & \vdots & \vdots \\ & & & \ddots & 0 & a_{n-2,n} \\ & & & & 0 & 0 \\ & & & & & 0 \end{pmatrix}$$