

TYPES OF MATRICES

- SQUARE ($n \times n$)
- DIAGONAL
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- UPPER/LOWER ~~TRI~~ TRIANGULAR
- TRI-DIAGONAL
- IDENTITY
- HERMITIAN ($A = A^*$)
- SKEW HERMITIAN ($A = -A^*$)
- NORMAL ($A^*A = AA^*$)
- POSITIVE DEFINITE
(if $\vec{z} \neq \vec{0}$ then $\vec{z}^T A \vec{z} > 0$)
- POSITIVE SEMIDEFINITE
(if $\vec{z} \neq \vec{0}$ then $\vec{z}^T A \vec{z} \geq 0$)
- SYMMETRIC
($A = A^T$) ($a_{ij} = a_{ji}$)
- UNITARY MATRIX
($A^* = A^{-1}$)
- ORTHOGONAL MATRIX
($A^T = A^{-1}$) ($\sum_k a_{ik} a_{jk} = \delta_{ij}$)