

1.27 Pop quiz on Lecture 27 material

1. Compute the singular value decomposition of $A = \begin{pmatrix} 1 & 0 & 1 \\ 0 & 1 & 0 \end{pmatrix}$. More precisely, find a 2×2 orthogonal matrix U , a 2×3 ‘diagonal’ matrix S , and a 3×3 orthogonal matrix V , such that $A = USV^T$.
2. Compute the singular value decomposition of $A = \begin{pmatrix} 0 & -1 \\ 0 & 0 \end{pmatrix}$. More precisely, find a 2×2 orthogonal matrix U , a 2×2 diagonal matrix S , and a 2×2 orthogonal matrix V , such that $A = USV^T$.