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eigenvalues of normal operators

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Let H be a Hilbert space and $B(H)$ the algebra of bounded operators in H. Suppose $T \in B(H)$ is a normal operator. Then

1. - If $\lambda \in \mathbb{C}$ is an eigenvalue of T, then $\overline{\lambda}$ is an eigenvalue of T^* (the adjoint operator of T) for the same eigenvector.

2. - Eigenvectors of T associated with distinct eigenvalues are orthogonal.

Remark - It is known that for any linear operator eigenvectors associated with distinct eigenvalues are linearly independent. 2 strengthens this result for normal operators.