If \P is a square matrix, and if a matrix \P of the same size can be found such that $\P\P = \P\P = \P$, then \P is said to be invertible (or nonsingular) and \P is called an inverse of \P . If no such matrix \P can be found, then \P is said to be singular. Remark 1: The relationship $\P\P = \P\P = \P$ is not changed by interchanging \P and \P , so if \P is invertible and \P is an inverse of \P , then it is also true that \P is invertible, and \P is an inverse of \P .