MATRICES TO MATROIDS AND BACK AGAIN

Given two matrices with the same column indices, we consider the problem of finding a set of columns which are independent in both matrices. Matroids were developed as a generalization of linear independence in a vector space, and we describe this matrix problem in the more general matroid setting.

Applications to finding common bases between a pair of matroids are given, with a focus on the problem of counting the number of common bases.