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Forbidden Families of Configurations

Define a matrix A to be simple if it is a $(0,1)$ -matrix with no repeated columns. Given a matrix F , we say A has no configuration F if there is no submatrix of A which is a row and column permutation of F . Given m and a family \mathcal{F} of forbidden configurations, we seek an upper bound $\text{forb}(m, \mathcal{F})$ on the number of columns in an m -rowed simple matrix which has no configuration in \mathcal{F} .

A conjecture of Anstee and Sali predicts the asymptotics of $\text{forb}(m, \mathcal{F})$ when $|\mathcal{F}| = 1$. We consider $|\mathcal{F}| > 1$. (C.Koch, M.Raggi and A.Sali).