

Transversals and orthogonal Latin squares

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A transversal of a latin square is a selection of entries that hits each row, column and symbol exactly once. We can construct latin squares whose transversals are constrained in various ways. For orders that are not twice a prime, these constructions yield 2-maxMOLS, that is, pairs of orthogonal latin squares that cannot be extended to a triple of MOLS. If only Euclid's theorem was false, we'd have nearly solved the 2-maxMOLS problem.