Class: Strictly Copositive Matrices

Note: Since this class is symmetric, all patterns are positionally symmetric and diagrams are graphs rather than digraphs.

Status: Done

Definitions
• A matrix $A$ is strictly copositive if and only if $A$ is symmetric and for all vectors $x$ such that $x \geq 0$ and $x \neq 0$, $x^T A x > 0$.
• The partial matrix $B$ is a partial strictly copositive matrix if and only if every fully specified principal submatrix of $B$ is a strictly copositive matrix, and whenever $b_{ij}$ is specified then so is $b_{ji}$ and $b_{ij} = b_{ji}$.

Results:
• Every pattern $Q$ has strictly copositive completion [HJR05, H05].

References: