

Tutorial 4: Sparse LU Factorisation

(Fill) path theorems

The provided function `path_theorems()` defines a sparse matrix A and then computes the sparsity patterns of A^2 , A^{-1} and $L + U$ where $LU = A$ is the LU factorisation of A .

Apply the (fill) path theorems discussed in class to this matrix and check that your conclusions agree with the output of `path_theorems()`.