

Sparse matrices functions

Basic sparse matrices

spdiags	n-diagonal sparse matrix
speye	sparse unit matrix
sprand	sparse matrix with random numbers
sprandsym	symmetric sparse matrix with random numbers

Conversion

find	finds indices of non-zero elements
full	conversion of sparse matrix to full matrix
sparse	sparse matrix creation (non-zero elements and their indices)
spconvert	conversion from external sparse matrix format

Sparse matrices functions

Working with non-zero elements of sparse matrix

issparse	true if the matrix is sparse
nnz	number of non-zero elements
nonzeros	non-zero elements
nzmax	total space allocated for non-zero elements
spalloc	allocated memory for non-zero elements
spfun	applies function to non-zero elements
spones	replaces non-zero elements by ones

Visualization of sparse matrices

gplot	plots a graph
spy	visualize sparsity pattern

Sparse matrices functions

Conditionality, estimates

condest	estimate of conditionality number
normest	estimate of matrix norm
sprank	structural rank of sparse matrix

Auxiliary functions

spaugment	forms least squares augmented system
spparms	sets parameters for sparse matrix calculations
symbfact	symbolic matrix factorization analysis