

tensor.jl	
blockdiag	Create block diagonal tensor/matrix from block elements.
cp_als	Compute a CP decomposition of a tensor.
diagt	Create a diagonal tensor. Generalization of diagm.
hosvd	Higher-order singular value decomposition.
innerprod	Inner product.
krontm	Kronecker product of two tensors times matrix (n-mode product).
matten	Fold matrix into a tensor.
mkrontv	Matricized Kronecker product of tensors times vector.
mrnk	Multilinear rank of a tensor.
mttkrp	Matricized tensor times Khatri-Rao product.
neye	Identity tensor. Generalization of eye.
nrnk	The n-rank of a tensor.
nvecs	Singular vectors of mode-n matricization of a tensor.
squeeze	Squeeze all singleton dimensions of a tensor.
sthosvd	Sequentially truncated HOSVD.
tenmat	Matricization of a tensor.
tkron	Kronecker product of two tensors.
ttm	Tensor times matrix (n-mode product).
ttt	Outer product of tensors.
ttv	Tensor times vector (n-mode product).

ttensor.jl	
ttensor	Tensor in Tucker format.
randttensor	Creates random ttensor.
coresize	Size of core tensor of a ttensor.
cp_als	Compute a CP decomposition of a ttensor.
display	Display a ttensor.
full	Make full tensor out of a ttensor.
had (.*)	Hadamard (element-wise) product of two ttensors.
hadcten	Core tensor of Hadamard product of two ttensors.
hosvd	HOSVD for a ttensor.
hosvd1	HOSVD1 algorithm for getting Hadamard product of two ttensors as ttensor.
hosvd2	HOSVD2 algorithm for getting Hadamard product of two ttensors as ttensor.
hosvd3	HOSVD3 algorithm for getting Hadamard product of two ttensors as ttensor.
hosvd4	HOSVD4 algorithm for getting Hadamard product of two ttensors as ttensor.
innerprod	Inner product of two ttensors.
isequal (==)	True if ttensors have equal components.
lanczos	Lanczos based SVD for Hadamard product of two ttensors .
lanczos_tridiag	Lanczos tridiagonalization algorithm for Hadamard product of two ttensors .
mhadt	Matricized Hadamard product of ttensors times vector.
minus (-)	Subtraction of two ttensors.
mrnk	Multilinear rank of a ttensor.
msvdvals	Singular values of matricization of a ttensor.

mtimes (*)	Scalar times ttensor.
mttkrp	Matricized ttensor times Khatri-Rao product.
ndims	Number of modes of a ttensor.
nrank	n-rank of a ttensor.
nvecs	Singular vectors of mode-n matricization of a ttensor.
permutedims	Permute dimensions of a ttensor.
plus (+)	Addition of two ttensors.
randrange	Randomized range approximation of matricization of Hadamard product of ttensors.
randsvd	Randomized SVD for Hadamard product of two ttensors .
reorth	Orthogonalize factor matrices of a ttensor.
reorth!	Orthogonalize factor matrices of a ttensor. Rewrite ttensor.
size	Size of a ttensor.
tenmat	Matricization of a ttensor.
ttm	Mode-n multiplication - ttensor times matrix.
ttv	Mode-n multiplication – ttensor times vector.
uminus	Unary minus.
vecnorm	Frobenius norm of a ttensor.

ktensor.jl	
ktensor	Tensor in Kruskal format.
randktensor	Creates random ktensor.
arrange	Arrange the rank-1 components of a ktensor.
arrange!	Arrange the rank-1 components of a ktensor. Rewrite ktensor.
cp_als	Compute a CP decomposition of a ktensor.
display	Display a ktensor.
extract	Create a new ktensor with only the specified factors.
fixsigns	Fix sign ambiguity of a ktensor.
fixsigns!	Fix sign ambiguity of a ktensor. Rewrite ktensor.
full	Make full tensor out of a ktensor.
innerprod	Inner product of two ktensors.
isequal (==)	True if ktensors have equal components.
minus (-)	Subtraction of two ktensors.
mtimes (*)	Scalar times ktensor.
mttkrp	Matricized ktensor times Khatri-Rao product.
ncomponents	Number of components of a ktensor.
ndims	Number of modes of a ktensor.
normalize	Normalize columns of the factor matrices.
normalize!	Normalize columns of the factor matrices. Rewrite ktensor.
nvecs	Singular values of matricization of a ktensor obtained from Gramian.
permutedims	Permute dimensions of a ktensor.

plus (+)	Addition of two ktensors.
redistribute	Distribute lambda values to a specified mode.
redistribute!	Distribute lambda values to a specified mode. Rewrite ktensor.
size	Size of a ktensor.
tenmat	Matricization of a ktensor.
tocell	Converts ktensor into a cell.
ttensor	Create ttensor out of a ktensor.
ttm	Mode-n multiplication – ktensor times matrix.
ttv	Mode-n multiplication – ktensor times vector.
uminus	Unary minus.
vecnorm	Frobenius norm of a ktensor.

htensor.jl	
htensor	Tensor in hierarchical Tucker format.
randhtensor	Create random htensor.
cat	Concatenation of two htensors.
display	Display a htensor.
full	Make full tensor out of a htensor.
hrank	Hierarchical rank of a htensor.
htrunc	Truncate full tensor to a htensor.
innerprod	Inner product of two htensors.
isequal (==)	True if htensors have equal components.
minus (-)	Subtraction of two tensors.
mtimes (*)	Scalar times htensor.
ndims	Number of modes of a htensor.
plus (+)	Addition of two htensors.
reorth	Orthogonalize factor matrices of a htensor.
reorth!	Orthogonalize factor matrices of a htensor. Rewrite htensor.
size	Size of a htensor.
squeeze	Remove singleton dimensions from a htensor.
trten2mat	Reshape transfer tensor to matrix.
trten2ten	Reshape transfer tensor to tensor.
ttm	Mode-n multiplication – htensor times matrix.
ttv	Mode-n multiplication – htensor times vector.

uminus	Unary minus.
vecnorm	Frobenius norm of a htensor.

dimtree.jl	
dimtree	Dimension tree.
children	Children of a node in a dimtree.
count_leaves	Number of leaves under a node of a dimtree.
dims	Content of a node of a dimtree.
display	Display a dimtree.
height	Height of a dimtree.
isequal (==)	True if two dimensional trees are equal.
is_leaf	True if a node is a leaf.
is_left	True if a node is a left node.
is_right	True if a node is a right node.
left_child_length	Length of the left child of a node.
lvl	Level of a node in a dimtree.
nodes_on_lvl	Nodes on a level.
node2ind	Convert node to index of a component of a dimtree.
non	Number of nodes of a dimtree.
parent	Parent of a node in a dimtree.
positions	Positions of nodes of a dimtree in a full binary tree.
sibling	Sibling of a node in a dimtree.
structure	Structure of a dimtree.
subnodes	Nodes in the subtree of a node.
subtree	Dimensional tree with the same structure as a subtree of a dimtree.



helper.jl	
colspace	Column space basis.
khatri rao	Khatri-Rao product of matrices.
krontrkrn	Kronecker product of matrices multiplied by Kronecker product of vectors.
kron	Extension of Base.kron to work with MatrixCell.
krontrv	Kronecker product times vector or matrix.
krtv	Khatri-Rao product times vector or matrix.
tkrtv	Transpose Khatri-Rao product times vector of matrix.
lanczos	Lanczos based SVD.
lanczos_tridiag	Lanczos tridiagonalization algorithm.
randsvd	Randomized SVD algorithm.
VectorCell	Cell of vectors.
MatrixCell	Cell of matrices.
TensorCell	Cell of tensors.
NOT EXPORTED	
check_vector_input	Create vector out of a number.
indicesmat2vec	Transforms matrix of multi-indices into a vector of linear indices.
indicesmat	Creates a matrix of all multi-indices of a tensor shifted by a vector.
shiftsmt	Creates a matrix of all shifts for element-wise multiplication.