MATLAB — Functions

By Category | Alphabetical List

FILTERED BY Distributed Arrays ×

Language Fundamentals

Matrices and Arrays

⚠ zeros	Create array of all zeros
⚠ ones	Create array of all ones
⚠ rand	Uniformly distributed random numbers
⚠ true	Logical 1 (true)
⚠ false	Logical 0 (false)
⚠ eye	Identity matrix
diag	Create diagonal matrix or get diagonal elements of matrix
cat	Concatenate arrays
horzcat	Concatenate arrays horizontally
vertcat	Concatenate arrays vertically
repelem	Repeat copies of array elements
repmat	Repeat copies of array
⚠ linspace	Generate linearly spaced vector
⚠ logspace	Generate logarithmically spaced vector
⚠ meshgrid	2-D and 3-D grids
⚠ ndgrid	Rectangular grid in N-D space
length	Length of largest array dimension
size	Array size
ndims	Number of array dimensions
numel	Number of array elements
isscalar	Determine whether input is scalar
issorted	Determine if array is sorted
issortedrows	Determine if matrix or table rows are sorted
isvector	Determine whether input is vector
ismatrix	Determine whether input is matrix
isrow	Determine whether input is row vector
iscolumn	Determine whether input is column vector
isempty	Determine whether array is empty
sort	Sort array elements
⚠ sortrows	Sort rows of matrix or table
flip	Flip order of elements

fliplr	Flip array left to right
flipud	Flip array up to down
rot90	Rotate array 90 degrees
transpose	Transpose vector or matrix
ctranspose	Complex conjugate transpose
permute	Permute array dimensions
ipermute	Inverse permute array dimensions
circshift	Shift array circularly
shiftdim	Shift array dimensions
reshape	Reshape array
squeeze	Remove dimensions of length 1
⚠ colon	Vector creation, array subscripting, and for-loop iteration
end	Terminate block of code or indicate last array index
ind2sub	Convert linear indices to subscripts
sub2ind	Convert subscripts to linear indices

Data Types

Numeric Types

double	Double-precision arrays
single	Single-precision arrays
int8	8-bit signed integer arrays
int16	16-bit signed integer arrays
int32	32-bit signed integer arrays
int64	64-bit signed integer arrays
uint8	8-bit unsigned integer arrays
uint16	16-bit unsigned integer arrays
uint32	32-bit unsigned integer arrays
uint64	64-bit unsigned integer arrays
⚠ cast	Convert variable to different data type
typecast	Convert data type without changing underlying data
isinteger	Determine whether input is integer array
isfloat	Determine if input is floating-point array
isnumeric	Determine whether input is numeric array
isreal	Determine whether array is real
isfinite	Determine which array elements are finite
isinf	Determine which array elements are infinite
isnan	Determine which array elements are NaN
eps	Floating-point relative accuracy
⚠ Inf	Create array of all Inf values
⚠ NaN	Create array of all NaN values

Characters and Strings

string	String array
join	Combine strings
⚠ char	Character array
cellstr	Convert to cell array of character vectors
compose	Format data into multiple strings
double	Double-precision arrays
string	String array
⚠ str2double	Convert strings to double precision values
ischar	Determine if input is character array
iscellstr	Determine if input is cell array of character vectors
isstring	Determine if input is string array
strlength	Lengths of strings
contains	Determine if pattern is in strings
matches	Determine if pattern matches strings
count	Count occurrences of pattern in strings
endsWith	Determine if strings end with pattern
startsWith	Determine if strings start with pattern
⚠ strfind	Find strings within other strings
replace	Find and replace one or more substrings
replaceBetween	Replace substrings between start and end points
⚠ strrep	Find and replace substrings
join	Combine strings
erase	Delete substrings within strings
eraseBetween	Delete substrings between start and end points
extractAfter	Extract substrings after specified positions
extractBefore	Extract substrings before specified positions
extractBetween	Extract substrings between start and end points
insertAfter	Insert strings after specified substrings
insertBefore	Insert strings before specified substrings
pad	Add leading or trailing characters to strings
strip	Remove leading and trailing characters from strings
lower	Convert strings to lowercase
upper	Convert strings to uppercase
reverse	Reverse order of characters in strings
⚠ deblank	Remove trailing whitespace from ends of strings
⚠ strtrim	Remove leading and trailing whitespace from strings
⚠ strcmp	Compare strings
⚠ strcmpi	Compare strings (case insensitive)
⚠ strncmp	Compare first n characters of strings (case sensitive)

strncmpi	Compare first n characters of strings (case insensitive)

Dates and Time

datetime	Arrays that represent points in time
years	Duration in years
days	Duration in days
hours	Duration in hours
minutes	Duration in minutes
seconds	Duration in seconds
milliseconds	Duration in milliseconds
duration	Lengths of time in fixed-length units
calyears	Calendar duration in years
calquarters	Calendar duration in quarters
calmonths	Calendar duration in months
calweeks	Calendar duration in weeks
caldays	Calendar duration in days
calendarDuration	Lengths of time in variable-length calendar units
year	Year number
quarter	Quarter number
month	Month number and name
week	Week number
day	Day number or name
hour	Hour number
minute	Minute number
second	Second number
ymd	Year, month, and day numbers of datetime
hms	Hour, minute, and second numbers of datetime or duration
time	Convert time of calendar duration to duration
timeofday	Elapsed time since midnight for datetimes
isdatetime	Determine if input is datetime array
isduration	Determine if input is duration array
iscalendarduration	Determine if input is calendar duration array
isnat	Determine NaT (Not-a-Time) elements
isdst	Determine daylight saving time elements
isweekend	Determine weekend elements
tzoffset	Time zone offset from UTC
between	Calendar math differences
dateshift	Shift date or generate sequence of dates and time
isbetween	Determine elements within date and time interval
datenum	Convert date and time to serial date number

⚠ datevec	Convert date and time to vector of components
exceltime	Convert MATLAB datetime to Excel date number
juliandate	Convert MATLAB datetime to Julian date
posixtime	Convert MATLAB datetime to POSIX time
yyyymmdd	Convert MATLAB datetime to YYYYMMDD numeric value
⚠ char	Character array
string	String array

Categorical Arrays

⚠ categorical	Array that contains values assigned to categories
iscategorical	Determine whether input is categorical array
categories	Categories of categorical array
iscategory	Test for categorical array categories
isordinal	Determine whether input is ordinal categorical array
isprotected	Determine whether categories of categorical array are protected
addcats	Add categories to categorical array
mergecats	Merge categories in categorical array
removecats	Remove categories from categorical array
renamecats	Rename categories in categorical array
reordercats	Reorder categories in categorical array
setcats	Set categories in categorical array
summary	Print summary of table, timetable, or categorical array
countcats	Count occurrences of categorical array elements by category
isundefined	Find undefined elements in categorical array

Tables

⚠ table	Table array with named variables that can contain different types
table2array	Convert table to homogeneous array
table2cell	Convert table to cell array
table2timetable	Convert table to timetable
timetable2table	Convert timetable to table
head	Get top rows of table, timetable, or tall array
tail	Get bottom rows of table, timetable, or tall array
summary	Print summary of table, timetable, or categorical array
height	Number of table rows
width	Number of table variables
istable	Determine whether input is table
⚠ sortrows	Sort rows of matrix or table
unique	Unique values in array
issortedrows	Determine if matrix or table rows are sorted

topkrows	Top rows in sorted order
addvars	Add variables to table or timetable
renamevars	Rename variables in table or timetable
movevars	Move variables in table or timetable
removevars	Delete variables from table or timetable
ismissing	Find missing values
standardizeMissing	Insert standard missing values

Timetables

⚠ timetable	Timetable array with time-stamped rows and variables of different types
table2timetable	Convert table to timetable
timetable2table	Convert timetable to table
istimetable	Determine if input is timetable
summary	Print summary of table, timetable, or categorical array
head	Get top rows of table, timetable, or tall array
tail	Get bottom rows of table, timetable, or tall array
unique	Unique values in array
⚠ sortrows	Sort rows of matrix or table
ismissing	Find missing values
standardizeMissing	Insert standard missing values

Structures

fieldnames	Field names of structure, or public fields of Java or Microsoft COM object
rmfield	Remove fields from structure
arrayfun	Apply function to each element of array
cell2struct	Convert cell array to structure array
struct2cell	Convert structure to cell array

Cell Arrays

⚠ cell	Cell array
cell2mat	Convert cell array to ordinary array of the underlying data type
cell2struct	Convert cell array to structure array
cellfun	Apply function to each cell in cell array
cellstr	Convert to cell array of character vectors
iscell	Determine if input is cell array
iscellstr	Determine if input is cell array of character vectors
num2cell	Convert array to cell array with consistently sized cells
struct2cell	Convert structure to cell array
table2cell	Convert table to cell array

Data Type Identification

iscalendarduration	Determine if input is calendar duration array
iscategorical	Determine whether input is categorical array
iscell	Determine if input is cell array
iscellstr	Determine if input is cell array of character vectors
ischar	Determine if input is character array
isdatetime	Determine if input is datetime array
isduration	Determine if input is duration array
isfloat	Determine if input is floating-point array
isinteger	Determine whether input is integer array
islogical	Determine if input is logical array
isnumeric	Determine whether input is numeric array
isreal	Determine whether array is real
isstring	Determine if input is string array
istable	Determine whether input is table
istimetable	Determine if input is timetable
validateattributes	Check validity of array

Data Type Conversion

⚠ char	Character array
cellstr	Convert to cell array of character vectors
⚠ str2double	Convert strings to double precision values
table2array	Convert table to homogeneous array
table2cell	Convert table to cell array
cell2mat	Convert cell array to ordinary array of the underlying data type
cell2struct	Convert cell array to structure array
num2cell	Convert array to cell array with consistently sized cells
struct2cell	Convert structure to cell array

Operators and Elementary Operations

Arithmetic Operations

+	Addition
⚠ sum	Sum of array elements
⚠ cumsum	Cumulative sum
-	Subtraction
diff	Differences and approximate derivatives
.*	Multiplication
*	Matrix multiplication
⚠ prod	Product of array elements
⚠ cumprod	Cumulative product
./	Right array division

.\	Left array division
/	Solve systems of linear equations xA = B for x
\	Solve systems of linear equations Ax = B for x
.^	Element-wise power
uminus	Unary minus
uplus	Unary plus
mod	Remainder after division (modulo operation)
rem	Remainder after division
idivide	Integer division with rounding option
ceil	Round toward positive infinity
fix	Round toward zero
floor	Round toward negative infinity
round	Round to nearest decimal or integer
bsxfun	Apply element-wise operation to two arrays with implicit expansion enabled

Relational Operations

==	Determine equality
>=	Determine greater than or equal to
>	Determine greater than
<=	Determine less than or equal to
<	Determine less than
~=	Determine inequality
isequal	Determine array equality
isequaln	Determine array equality, treating NaN values as equal

Logical Operations

&	Find logical AND
~	Find logical NOT
|	Find logical OR
xor	Find logical exclusive-OR
all	Determine if all array elements are nonzero or true
any	Determine if any array elements are nonzero
false	Logical 0 (false)
find	Find indices and values of nonzero elements
islogical	Determine if input is logical array
logical	Convert numeric values to logicals
true	Logical 1 (true)

Set Operations

unique	Unique values in array

Bit-Wise Operations

bitand	Bit-wise AND
bitor	Bit-wise OR
bitxor	Bit-wise XOR
swapbytes	Swap byte ordering

Loops and Conditional Statements

end	Terminate block of code or indicate last array index

Data Import and Analysis

Data Import and Export

Low-Level File I/O

fprintf	Write data to text file

Large Files and Big Data

Tall Arrays

gather	Collect tall array into memory after executing queued operations
write	Write tall array to local and remote locations for checkpointing
isaUnderlying	Determine if tall array data is of specified class

Preprocessing Data

ismissing	Find missing values
standardizeMissing	Insert standard missing values
normalize	Normalize data
rescale	Scale range of array elements

Descriptive Statistics

min	Minimum elements of an array
mink	Find k smallest elements of array
max	Maximum elements of an array
maxk	Find k largest elements of array
bounds	Smallest and largest elements
topkrows	Top rows in sorted order
mean	Average or mean value of array
median	Median value of array
mode	Most frequent values in array
std	Standard deviation
var	Variance
corrcoef	Correlation coefficients
cov	Covariance

cummax	Cumulative maximum
cummin	Cumulative minimum

Mathematics

Elementary Math

Arithmetic

+	Addition
⚠ sum	Sum of array elements
⚠ cumsum	Cumulative sum
-	Subtraction
diff	Differences and approximate derivatives
.*	Multiplication
*	Matrix multiplication
⚠ prod	Product of array elements
⚠ cumprod	Cumulative product
./	Right array division
.\	Left array division
⚠ /	Solve systems of linear equations xA = B for x
⚠ \	Solve systems of linear equations Ax = B for x
.^	Element-wise power
uminus	Unary minus
uplus	Unary plus
mod	Remainder after division (modulo operation)
rem	Remainder after division
idivide	Integer division with rounding option
ceil	Round toward positive infinity
fix	Round toward zero
floor	Round toward negative infinity
round	Round to nearest decimal or integer
bsxfun	Apply element-wise operation to two arrays with implicit expansion enabled

Trigonometry

sin	Sine of argument in radians
sind	Sine of argument in degrees
sinpi	Compute sin(X*pi) accurately
asin	Inverse sine in radians
asind	Inverse sine in degrees
sinh	Hyperbolic sine
asinh	Inverse hyperbolic sine
cos	Cosine of argument in radians

cosd	Cosine of argument in degrees
cospi	Compute cos(X*pi) accurately
acos	Inverse cosine in radians
acosd	Inverse cosine in degrees
cosh	Hyperbolic cosine
acosh	Inverse hyperbolic cosine
tan	Tangent of argument in radians
tand	Tangent of argument in degrees
atan	Inverse tangent in radians
atand	Inverse tangent in degrees
atan2	Four-quadrant inverse tangent
atan2d	Four-quadrant inverse tangent in degrees
tanh	Hyperbolic tangent
atanh	Inverse hyperbolic tangent
csc	Cosecant of input angle in radians
cscd	Cosecant of argument in degrees
acsc	Inverse cosecant in radians
acscd	Inverse cosecant in degrees
csch	Hyperbolic cosecant
acsch	Inverse hyperbolic cosecant
sec	Secant of angle in radians
secd	Secant of argument in degrees
asec	Inverse secant in radians
asecd	Inverse secant in degrees
sech	Hyperbolic secant
asech	Inverse hyperbolic secant
cot	Cotangent of angle in radians
cotd	Cotangent of argument in degrees
acot	Inverse cotangent in radians
acotd	Inverse cotangent in degrees
coth	Hyperbolic cotangent
acoth	Inverse hyperbolic cotangent
hypot	Square root of sum of squares (hypotenuse)
deg2rad	Convert angle from degrees to radians
rad2deg	Convert angle from radians to degrees
cart2pol	Transform Cartesian coordinates to polar or cylindrical
cart2sph	Transform Cartesian coordinates to spherical
pol2cart	Transform polar or cylindrical coordinates to Cartesian
sph2cart	Transform spherical coordinates to Cartesian

Exponents and Logarithms

exp	Exponential
expm1	Compute exp(x)-1 accurately for small values of x
log	Natural logarithm
log10	Common logarithm (base 10)
log1p	Compute log(1+x) accurately for small values of x
log2	Base 2 logarithm and floating-point number dissection
nextpow2	Exponent of next higher power of 2
nthroot	Real nth root of real numbers
pow2	Base 2 power and scale floating-point numbers
reallog	Natural logarithm for nonnegative real arrays
realpow	Array power for real-only output
realsqrt	Square root for nonnegative real arrays
sqrt	Square root

Complex Numbers

abs	Absolute value and complex magnitude
angle	Phase angle
complex	Create complex array
conj	Complex conjugate
imag	Imaginary part of complex number
isreal	Determine whether array is real
real	Real part of complex number
sign	Sign function (signum function)
unwrap	Shift phase angles

Discrete Math

⚠ factorial	Factorial of input

Polynomials

polyfit	Polynomial curve fitting
polyval	Polynomial evaluation
polyvalm	Matrix polynomial evaluation
conv	Convolution and polynomial multiplication
polyint	Polynomial integration

Special Functions

besselh	Bessel function of third kind (Hankel function)
besseli	Modified Bessel function of first kind
besselj	Bessel function of first kind

besselk	Modified Bessel function of second kind
bessely	Bessel function of second kind
beta	Beta function
betainc	Incomplete beta function
betaincinv	Beta inverse cumulative distribution function
betaln	Logarithm of beta function
erf	Error function
erfc	Complementary error function
erfcinv	Inverse complementary error function
erfcx	Scaled complementary error function
erfinv	Inverse error function
gamma	Gamma function
gammainc	Incomplete gamma function
gammaincinv	Inverse incomplete gamma function
gammaln	Logarithm of gamma function
psi	Psi (polygamma) function
expint	Exponential integral

Constants and Test Matrices

eps	Floating-point relative accuracy
⚠ Inf	Create array of all Inf values
⚠ NaN	Create array of all NaN values
isfinite	Determine which array elements are finite
isinf	Determine which array elements are infinite
isnan	Determine which array elements are NaN
compan	Companion matrix
hankel	Hankel matrix
toeplitz	Toeplitz matrix
vander	Vandermonde matrix

Linear Algebra

⚠ mldivide	Solve systems of linear equations Ax = B for x
⚠ mrdivide	Solve systems of linear equations xA = B for x
⚠ decomposition	Matrix decomposition for solving linear systems
⚠ inv	Matrix inverse
⚠ eig	Eigenvalues and eigenvectors
⚠ eigs	Subset of eigenvalues and eigenvectors
svd	Singular value decomposition
⚠ svds	Subset of singular values and vectors
⚠ lu	LU matrix factorization

⚠ chol	Cholesky factorization
⚠ qr	QR decomposition
planerot	Givens plane rotation
transpose	Transpose vector or matrix
ctranspose	Complex conjugate transpose
mtimes	Matrix multiplication
cross	Cross product
dot	Dot product
bandwidth	Lower and upper matrix bandwidth
tril	Lower triangular part of matrix
triu	Upper triangular part of matrix
isbanded	Determine if matrix is within specific bandwidth
isdiag	Determine if matrix is diagonal
ishermitian	Determine if matrix is Hermitian or skew-Hermitian
issymmetric	Determine if matrix is symmetric or skew-symmetric
istril	Determine if matrix is lower triangular
istriu	Determine if matrix is upper triangular
norm	Vector and matrix norms
normest	2-norm estimate
vecnorm	Vector-wise norm
⚠ cond	Condition number for inversion
trace	Sum of diagonal elements

Random Number Generation

⚠ rand	Uniformly distributed random numbers
⚠ randn	Normally distributed random numbers
⚠ randi	Uniformly distributed pseudorandom integers

Interpolation

⚠ ndgrid	Rectangular grid in N-D space
⚠ meshgrid	2-D and 3-D grids

Numerical Integration and Differential Equations

Numerical Integration and Differentiation

trapz	Trapezoidal numerical integration
del2	Discrete Laplacian
diff	Differences and approximate derivatives
polyint	Polynomial integration

Fourier Analysis and Filtering

⚠ fft	Fast Fourier transform

fft2	2-D fast Fourier transform
fftn	N-D fast Fourier transform
fftshift	Shift zero-frequency component to center of spectrum
ifft	Inverse fast Fourier transform
ifft2	2-D inverse fast Fourier transform
ifftn	Multidimensional inverse fast Fourier transform
ifftshift	Inverse zero-frequency shift
nextpow2	Exponent of next higher power of 2
conv	Convolution and polynomial multiplication
⚠ conv2	2-D convolution
convn	N-D convolution

Sparse Matrices

⚠ spalloc	Allocate space for sparse matrix
spdiags	Extract nonzero diagonals and create sparse band and diagonal matrices
speye	Sparse identity matrix
⚠ sprand	Sparse uniformly distributed random matrix
⚠ sprandn	Sparse normally distributed random matrix
⚠ sprandsym	Sparse symmetric random matrix
sparse	Create sparse matrix
spconvert	Import from sparse matrix external format
issparse	Determine whether input is sparse
nnz	Number of nonzero matrix elements
nonzeros	Nonzero matrix elements
nzmax	Amount of storage allocated for nonzero matrix elements
⚠ spfun	Apply function to nonzero sparse matrix elements
spones	Replace nonzero sparse matrix elements with ones
⚠ spy	Visualize sparsity pattern of matrix
find	Find indices and values of nonzero elements
full	Convert sparse matrix to full storage
⚠ pcg	Solve system of linear equations — preconditioned conjugate gradients method
⚠ lsqr	Solve system of linear equations — least-squares method
⚠ minres	Solve system of linear equations — minimum residual method
⚠ symmlq	Solve system of linear equations — symmetric LQ method
⚠ gmres	Solve system of linear equations — generalized minimum residual method
⚠ bicg	Solve system of linear equations — biconjugate gradients method
⚠ bicgstab	Solve system of linear equations — stabilized biconjugate gradients method
⚠ bicgstabl	Solve system of linear equations — stabilized biconjugate gradients (l) method
⚠ cgs	Solve system of linear equations — conjugate gradients squared method
⚠ qmr	Solve system of linear equations — quasi-minimal residual method

tfqmr	Solve system of linear equations — transpose-free quasi-minimal residual method
ilu	Incomplete LU factorization
eigs	Subset of eigenvalues and eigenvectors
svds	Subset of singular values and vectors
normest	2-norm estimate

Computational Geometry

Triangulation Representation

trimesh	Triangular mesh plot
trisurf	Triangular surface plot

Delaunay Triangulation

trimesh	Triangular mesh plot
trisurf	Triangular surface plot

Voronoi Diagram

voronoi	Voronoi diagram
patch	Plot one or more filled polygonal regions

Elementary Polygons

inpolygon	Points located inside or on edge of polygonal region
polyarea	Area of polygon
rectint	Rectangle intersection area

Graphics

2-D and 3-D Plots

Line Plots

plot	2-D line plot
plot3	3-D point or line plot
stairs	Stairstep graph
errorbar	Line plot with error bars
area	Filled area 2-D plot
loglog	Log-log scale plot
semilogx	Semilog plot (x-axis has log scale)
semilogy	Semilog plot (y-axis has log scale)
fplot	Plot expression or function

Data Distribution Plots

histogram	Histogram plot
scatter	Scatter plot
scatter3	3-D scatter plot

spy	Visualize sparsity pattern of matrix
plotmatrix	Scatter plot matrix
pie	Pie chart
pie3	3-D pie chart

Discrete Data Plots

bar	Bar graph
barh	Horizontal bar graph
bar3	Plot 3-D bar graph
bar3h	Plot horizontal 3-D bar graph
pareto	Pareto chart
stem	Plot discrete sequence data
stem3	Plot 3-D discrete sequence data
scatter	Scatter plot
scatter3	3-D scatter plot
stairs	Stairstep graph

Polar Plots

compass	Plot arrows emanating from origin
ezpolar	Easy-to-use polar coordinate plotter

Contour Plots

contour	Contour plot of matrix
contourf	Filled 2-D contour plot
contourc	Low-level contour plot computation
contour3	3-D contour plot
contourslice	Draw contours in volume slice planes
clabel	Label contour plot elevation

Vector Fields

feather	Plot velocity vectors
quiver	Quiver or velocity plot
compass	Plot arrows emanating from origin
quiver3	3-D quiver or velocity plot
streamslice	Plot streamlines in slice planes
streamline	Plot streamlines from 2-D or 3-D vector data

Surfaces, Volumes, and Polygons

Surface and Mesh Plots

surf	Surface plot
surfc	Contour plot under surface plot

surfl	Surface plot with colormap-based lighting
mesh	Mesh surface plot
meshc	Contour plot under mesh surface plot
meshz	Mesh surface plot with curtain
waterfall	Waterfall plot
ribbon	Ribbon plot
contour3	3-D contour plot
pcolor	Pseudocolor plot

Volume Visualization

contourslice	Draw contours in volume slice planes
isocaps	Compute isosurface end-cap geometry
isocolors	Calculate isosurface and patch colors
isonormals	Compute normals of isosurface vertices
isosurface	Extract isosurface data from volume data
reducepatch	Reduce number of patch faces
reducevolume	Reduce number of elements in volume data set
shrinkfaces	Reduce size of patch faces
slice	Volume slice planes
smooth3	Smooth 3-D data
subvolume	Extract subset of volume data set
volumebounds	Coordinate and color limits for volume data
coneplot	Plot velocity vectors as cones in 3-D vector field
curl	Compute curl and angular velocity of vector field
divergence	Compute divergence of vector field
interpstreamspeed	Interpolate stream-line vertices from flow speed
stream2	Compute 2-D streamline data
stream3	Compute 3-D streamline data
streamline	Plot streamlines from 2-D or 3-D vector data
streamparticles	Plot stream particles
streamribbon	3-D stream ribbon plot from vector volume data
streamslice	Plot streamlines in slice planes
streamtube	Create 3-D stream tube plot

Polygons

fill	Filled 2-D polygons
fill3	Filled 3-D polygons
patch	Plot one or more filled polygonal regions

Animation

animatedline	Create animated line

addpoints	Add points to animated line
comet	2-D comet plot
comet3	3-D comet plot

Formatting and Annotation

Labels and Annotations

line	Create primitive line

Colormaps

hsv2rgb	Convert HSV colors to RGB
rgb2hsv	Convert RGB colors to HSV

Images

imshow	Display image
image	Display image from array
imagesc	Display image with scaled colors
im2double	Convert image to double precision
rgb2gray	Convert RGB image or colormap to grayscale

Graphics Objects

Graphics Object Programming

isempty	Determine whether array is empty
isequal	Determine array equality

Object Containers

eye	Identity matrix

Programming

Functions

Input and Output Arguments

validateattributes	Check validity of array

Classes

Class Syntax Guide

properties	Class property names

Class Definition

Properties

properties	Class property names

Handle Classes

isequal	Determine array equality
eq	Determine equality

Class Customization

Object Indexing

subsref	Subscripted reference
subsasgn	Redefine subscripted assignment
subsindex	Convert object to array index

Class Introspection and Metadata

properties	Class property names