

MATLAB Function Reference

This is a summary of the Matlab built-in commands or functions. The list is not complete.

For a detailed explanation and examples of each function you can type 'help **function**' (without quotes) in your Matlab command window.

Command Window and History

clc	Clear Command Window
diary	Save session to file
dos	Execute DOS command and return result
format	Control display format for output
home	Move cursor to upper left corner of Command Window
more	Control paged output for Command Window
system	Execute operating system command and return result

Help for Using MATLAB

demo	Access product demos via Help browser
docsearch	Open Help browser Search pane and run search for specified term
help	Display help for MATLAB functions in Command Window
helpbrowser	Display Help browser for access to full online documentation and demos
helpwin	Provide access to and display M-file help for all functions
lookfor	Search for specified keyword in all help entries

Workspace

clear	Remove items from workspace, freeing up system memory
evalin	Execute string containing MATLAB expression in a workspace
exist	Check if variables or functions are defined
which	Locate functions and files
who, whos	List variables in workspace
workspace	Display Workspace browser, a tool for managing workspace

File Operations, Shutdown

cd	Change working directory
copyfile	Copy file or directory
delete	Delete files or graphics objects
dir	Display directory listing
exist	Check if variables or functions are defined
mkdir	Make new directory
movefile	Move file or directory
pwd	Display current directory
rmdir	Remove directory
type	List file
exit	Terminate MATLAB (same as quit)
genpath	Generate a path string
quit	Terminate MATLAB

Editing and Debugging

dbclear	Clear breakpoints
dbcont	Resume execution
dbdown	Change local workspace context
dbquit	Quit debug mode
dbstatus	List all breakpoints
dbstep	Execute one or more lines from current breakpoint
dbstop	Set breakpoints
dbtype	List M-file with line numbers
debug	M-file debugging functions
edit	Edit or create M-file

System

computer	Identify information about computer on which MATLAB is running
usejava	Determine if a Java feature is supported in MATLAB
ver	Display version information for MathWorks products
version	Get MATLAB version number

Basic Information

disp	Display array
display	Display array
isempty	True for empty matrix
isequal	True if arrays are identical
isfloat	True for floating-point arrays
isinteger	True for integer arrays
islogical	True for logical array
isnumeric	True for numeric arrays
isscalar	True for scalars
issparse	True for sparse matrix
isvector	True for vectors
length	Length of vector
ndims	Number of dimensions
numel	Number of elements
size	Size of matrix

Operators

+	Addition, Unary plus
-	Subtraction, Unary minus
*	Matrix multiplication
^	Matrix power
\	Backslash or left matrix divide
/	Slash or right matrix divide
'	Transpose
.'	Nonconjugated transpose
.*	Array multiplication (element-wise)
.^	Array power (element-wise)
.\	Left array divide (element-wise)
./	Right array divide (element-wise)

Operations and Manipulation

:	Index into array, rearrange array
cat	Concatenate arrays
cross	Vector cross product
cumprod	Cumulative product
cumsum	Cumulative sum
diag	Diagonal matrices and diagonals of matrix
dot	Vector dot product
end	Last index
find	Find indices of nonzero elements
fliplr	Flip matrices left-right
flipud	Flip matrices up-down
horzcat	Horizontal concatenation
max	Maximum value of array
min	Minimum value of array
prod	Product of array elements
rot90	Rotate matrix 90 degrees
sort	Sort array elements in ascending or descending order
sortrows	Sort rows in ascending order
sum	Sum of array elements
tril	Lower triangular part of matrix
triu	Upper triangular part of matrix
vertcat	Vertical concatenation

Elementary Matrices and Arrays

:	Regularly spaced vector
diag	Diagonal matrices and diagonals of matrix
eye	Identity matrix
linspace	Generate linearly spaced vectors
logspace	Generate logarithmically spaced vectors
meshgrid	Generate X and Y matrices for three-dimensional plots
ones	Create array of all ones
rand	Uniformly distributed random numbers and arrays
randn	Normally distributed random numbers and arrays
zeros	Create array of all zeros

Matrix Analysis

condeig	Condition number with respect to eigenvalues
det	Determinant
norm	Matrix or vector norm
normest	Estimate matrix 2-norm
null	Null space
orth	Orthogonalization
rank	Matrix rank
rref	Reduced row echelon form
subspace	Angle between two subspaces
trace	Sum of diagonal elements

Linear Equations

\ and /	Linear equation solution
chol	Cholesky factorization
cholinc	Incomplete Cholesky factorization
inv	Matrix inverse
linsolve	Solve linear systems of equations
lu	LU matrix factorization
luinc	Incomplete LU factorization
pinv	Moore-Penrose pseudoinverse of matrix
qr	Orthogonal-triangular decomposition

Eigenvalues and Singular Values

eig	Find eigenvalues and eigenvectors
eigs	Find largest eigenvalues and eigenvectors of sparse matrix
gsvd	Generalized singular value decomposition
poly	Polynomial with specified roots
polyeig	Polynomial eigenvalue problem
qz	QZ factorization for generalized eigenvalues
rsf2csf	Convert real Schur form to complex Schur form
svd	Singular value decomposition
svds	Singular values and vectors of sparse matrix

Factorization

balance	Diagonal scaling to improve eigenvalue accuracy
chol	Cholesky factorization
cholinc	Incomplete Cholesky factorization
lu	LU matrix factorization
luinc	Incomplete LU factorization
qr	Orthogonal-triangular decomposition
qrdelete	Delete column or row from QR factorization
qrinsert	Insert column or row into QR factorization
qrupdate	Rank 1 update to QR factorization
qz	QZ factorization for generalized eigenvalues

Trigonometry

acos	Inverse cosine
acosd	Inverse cosine, degrees
acosh	Inverse hyperbolic cosine
acot	Inverse cotangent
acotd	Inverse cotangent, degrees
acoth	Inverse hyperbolic cotangent
acsc	Inverse cosecant
acscd	Inverse cosecant, degrees
acsch	Inverse hyperbolic cosecant
asec	Inverse secant
asecd	Inverse secant, degrees
asech	Inverse hyperbolic secant
asin	Inverse sine
asind	Inverse sine, degrees
asinh	Inverse hyperbolic sine
atan	Inverse tangent
atand	Inverse tangent, degrees
atanh	Inverse hyperbolic tangent
atan2	Four-quadrant inverse tangent
cos	Cosine
cosd	Cosine, degrees
cosh	Hyperbolic cosine
cot	Cotangent
cotd	Cotangent, degrees
coth	Hyperbolic cotangent
csc	Cosecant
cscd	Cosecant, degrees
csch	Hyperbolic cosecant
sec	Secant
secd	Secant, degrees
sech	Hyperbolic secant
sin	Sine
sind	Sine, degrees
sinh	Hyperbolic sine
tan	Tangent

tand	Tangent, degrees
tanh	Hyperbolic tangent

Exponential

exp	Exponential
log	Natural logarithm
log2	Base 2 logarithm and dissect floating-point numbers into exponent and mantissa
log10	Common logarithm (base 10)
pow2	Base 2 power and scale floating-point number
reallog	Natural logarithm for nonnegative real arrays
realsqrt	Square root for nonnegative real arrays
sqrt	Square root
nthroot	Real nth root

Complex

abs	Absolute value
angle	Phase angle
conj	Complex conjugate
i, j	Imaginary unit
imag	Complex imaginary part
isreal	True for real array
real	Complex real part
sign	Signum

Rounding and Remainder

fix	Round towards zero
floor	Round towards minus infinity
ceil	Round towards plus infinity
round	Round towards nearest integer
mod	Modulus after division
rem	Remainder after division

Discrete Math

factor	Prime factors
factorial	Factorial function
gcd	Greatest common divisor
isprime	True for prime numbers
lcm	Least common multiple
nchoosek	All combinations of N elements taken K at a time
perms	All possible permutations
primes	Generate list of prime numbers
rat, rats	Rational fraction approximation

Basic Operations

max	Maximum elements of array
mean	Average or mean value of arrays
median	Median value of arrays
min	Minimum elements of array
prod	Product of array elements
std	Standard deviation
var	Variance

Filtering and Convolution

conv	Convolution and polynomial multiplication
conv2	Two-dimensional convolution
convn	N-dimensional convolution
deconv	Deconvolution and polynomial division
filter	Filter data with infinite impulse response (IIR) or finite impulse response (FIR) filter

Fourier Transforms

abs	Absolute value and complex magnitude
angle	Phase angle
fft	One-dimensional discrete Fourier transform
fft2	Two-dimensional discrete Fourier transform
fftn	N-dimensional discrete Fourier Transform
fftshift	Shift DC component of discrete Fourier transform to center of spectrum
ifft	Inverse one-dimensional discrete Fourier transform
ifft2	Inverse two-dimensional discrete Fourier transform
ifftshift	Inverse fast Fourier transform shift

Polynomials

conv	Convolution and polynomial multiplication
deconv	Deconvolution and polynomial division
poly	Polynomial with specified roots
polyder	Polynomial derivative
polyeig	Polynomial eigenvalue problem
polyfit	Polynomial curve fitting
polyint	Analytic polynomial integration
polyval	Polynomial evaluation
polyvalm	Matrix polynomial evaluation
residue	Convert between partial fraction expansion and polynomial coefficients
roots	Polynomial roots

Interpolation

dsearch	Search for nearest point
dsearchn	Multidimensional closest point search
griddata	Data gridding
griddata3	Data gridding and hypersurface fitting for three-dimensional data
interp1	One-dimensional data interpolation (table lookup)
interp2	Two-dimensional data interpolation (table lookup)
interp3	Three-dimensional data interpolation (table lookup)
meshgrid	Generate X and Y matrices for three-dimensional plots
spline	Cubic spline data interpolation

Domain Generation

meshgrid	Generate X and Y matrices for three-dimensional plots
ndgrid	Generate arrays for multidimensional functions and interpolation

Coordinate System Conversion

cart2sph	Transform Cartesian to spherical coordinates
cart2pol	Transform Cartesian to polar coordinates
pol2cart	Transform polar to Cartesian coordinates
sph2cart	Transform spherical to Cartesian coordinates

Optimization

fminbnd	Scalar bounded nonlinear function minimization
fminsearch	Multidimensional unconstrained nonlinear minimization, by Nelder-Mead direct search method
fzero	Scalar nonlinear zero finding
lsqnonneg	Linear least squares with nonnegativity constraints
optimset	Create or alter optimization options structure
optimget	Get optimization parameters from options structure

Numerical Integration

quad	Numerically evaluate integral, adaptive Simpson quadrature (low order)
quadl	Numerically evaluate integral, adaptive Lobatto quadrature (high order)
quadv	Vectorized quadrature
dblquad	Numerically evaluate double integral
triplequad	Numerically evaluate triple integral

Math Constants

eps	Floating-point relative accuracy
i, j	Imaginary unit
Inf	Infinity,
intmax	Largest possible value of specified integer type
intmin	Smallest possible value of specified integer type
NaN	Not-a-Number
pi	Ratio of a circle's circumference to its diameter,
realmax	Largest positive floating-point number
realmin	Smallest positive floating-point number

Numeric

[]	Array constructor
cat	Concatenate arrays
find	Find indices and values of nonzero array elements
intmax	Largest possible value of specified integer type
intmin	Smallest possible value of specified integer type
intwarning	Enable or disable integer warnings
isa	Determine if item is object of given class (e.g., numeric)
isequal	Determine if arrays are numerically equal
isnumeric	Determine if item is numeric array
isreal	Determine if all array elements are real numbers
isscalar	True for scalars (1-by-1 matrices)
isvector	True for vectors (1-by-N or N-by-1 matrices)
permute	Rearrange dimensions of multidimensional array
realmax	Largest positive floating-point number
realmin	Smallest positive floating-point number
zeros	Create array of all zeros

Creating and Manipulating Strings

blanks	Create string of blanks
char	Create character array (string)
cellstr	Create cell array of strings from character array
deblank	Strip trailing blanks from the end of string
lower	Convert string to lower case
sprintf	Write formatted data to string
sscanf	Read string under format control
strcat	String concatenation
strjust	Justify character array
strread	Read formatted data from string
strep	String search and replace
strtrim	Remove leading and trailing whitespace from string
strvcat	Vertical concatenation of strings
upper	Convert string to upper case

Comparing and Searching Strings

class	Return object's class name (e.g., char)
findstr	Find string within another, longer string
iscellstr	Determine if item is cell array of strings
ischar	Determine if item is character array
isletter	Detect array elements that are letters of the alphabet
isscalar	True for scalars
isspace	Detect elements that are ASCII white spaces
isstrprop	Determine content of each element of string
isvector	True for vectors (1-by-N or N-by-1 matrices)
regexp	Match regular expression
regexpi	Match regular expression, ignoring case
regexprep	Replace string using regular expression
strcmp	Compare strings
strcmpi	Compare strings, ignoring case
strfind	Find one string within another
strmatch	Find possible matches for string
strncmp	Compare first n characters of strings
strncmpi	Compare first n characters of strings, ignoring case

Evaluating String Expressions

eval	Execute string containing MATLAB expression
evalin	Execute string containing MATLAB expression in workspace

Structures

cell2struct	Cell array to structure array conversion
fieldnames	Field names of structure
isa	Determine if item is object of given class (e.g., struct)
isequal	Determine if arrays are numerically equal
isfield	Determine if item is structure array field
isstruct	Determine if item is structure array
orderfields	Order fields of a structure array
rmfield	Remove structure fields
struct	Create structure array
struct2cell	Structure to cell array conversion

Cell Arrays

{ }	Construct cell array
cell	Construct cell array
cellfun	Apply function to each element in cell array
cellstr	Create cell array of strings from character array
cell2mat	Convert cell array of matrices into single matrix
cell2struct	Cell array to structure array conversion
celldisp	Display cell array contents
cellplot	Graphically display structure of cell arrays
iscell	Determine if item is cell array
iscellstr	Determine if item is cell array of strings
isequal	Determine if arrays are numerically equal
mat2cell	Divide matrix up into cell array of matrices
num2cell	Convert numeric array into cell array
struct2cell	Structure to cell array conversion

Data Type Conversion

base2dec	Convert base N number string to decimal number
bin2dec	Convert binary number string to decimal number
hex2dec	Convert hexadecimal number string to decimal number
hex2num	Convert hexadecimal number string to double number
str2double	Convert string to double-precision number
str2num	Convert string to number
char	Convert to character array (string)
dec2base	Convert decimal to base N number in string
dec2bin	Convert decimal to binary number in string
dec2hex	Convert decimal to hexadecimal number in string
int2str	Convert integer to string
mat2str	Convert a matrix to string
num2str	Convert number to string
cell2mat	Convert cell array of matrices into single matrix
cell2struct	Convert cell array to structure array
datestr	Convert serial date number to string
func2str	Convert function handle to function name string
logical	Convert numeric to logical array
mat2cell	Divide matrix up into cell array of matrices
num2cell	Convert a numeric array to cell array
str2func	Convert function name string to function handle
struct2cell	Convert structure to cell array

Determine Data Type

isa	Determine if item is object of given class
iscell	Determine if item is cell array
iscellstr	Determine if item is cell array of strings
ischar	Determine if item is character array
isfield	Determine if item is character array
isfloat	True for floating-point arrays
isinteger	True for integer arrays
islogical	Determine if item is logical array
isnumeric	Determine if item is numeric array
isobject	Determine if item is MATLAB OOPs object
isreal	Determine if all array elements are real numbers
isstruct	Determine if item is MATLAB structure array

Basic Array Information

disp	Display text or array
display	Overloaded method to display text or array
isempty	Determine if array is empty
isequal	Determine if arrays are numerically equal
islogical	Determine if item is logical array
isnumeric	Determine if item is numeric array
isscalar	Determine if item is a scalar
isvector	Determine if item is a vector
length	Length of vector
ndims	Number of array dimensions
numel	Number of elements in matrix or cell array
size	Array dimensions

Array Manipulation

:	Specify range of array elements
cat	Concatenate arrays
circshift	Shift array circularly
find	Find indices and values of nonzero elements
fliplr	Flip matrices left-right
flipud	Flip matrices up-down
flipdim	Flip array along specified dimension
horzcat	Horizontal concatenation
ind2sub	Subscripts from linear index
permute	Rearrange dimensions of multidimensional array
rot90	Rotate matrix 90 degrees
shiftdim	Shift dimensions
sort	Sort array elements in ascending or descending order
sortrows	Sort rows in ascending order
vertcat	Vertical concatenation

Elementary Arrays

eye	Identity matrix
linspace	Generate linearly spaced vectors
logspace	Generate logarithmically spaced vectors
meshgrid	Generate X and Y matrices for three-dimensional plots
ndgrid	Generate arrays for multidimensional functions and interpolation
ones	Create array of all ones
rand	Uniformly distributed random numbers and arrays
randn	Normally distributed random numbers and arrays
zeros	Create array of all zeros

Special Characters

:	Specify range of array elements
()	Pass function arguments, or prioritize operations
[]	Construct array
{ }	Construct cell array
.	Decimal point, or structure field separator
...	Continue statement to next line
,	Array row element separator
;	Array column element separator
%	Insert comment line into code
!	Command to operating system
=	Assignment

Bit-wise Operations

bitand	Bit-wise AND
bitcmp	Bit-wise complement
bitor	Bit-wise OR
bitmax	Maximum floating-point integer
bitset	Set bit at specified position
bitshift	Bit-wise shift
bitget	Get bit at specified position
bitxor	Bit-wise XOR

Relational Operations

<	Less than
<=	Less than or equal to
>	Greater than
>=	Greater than or equal to
==	Equal to
~=	Not equal to

Logical Operations

&&	Logical AND
	Logical OR
&	Logical AND for arrays
	Logical OR for arrays
~	Logical NOT
all	Test to determine if all elements are nonzero
any	Test for any nonzero elements
iskeyword	Determine if string is MATLAB keyword
isvarname	Determine if string is valid variable name
logical	Convert numeric values to logical
true	True array
xor	Logical EXCLUSIVE OR

Set Operations

intersect	Set intersection of two vectors
ismember	Detect members of set
setdiff	Return set difference of two vectors
issorted	Determine if set elements are in sorted order
setxor	Set exclusive or of two vectors
union	Set union of two vectors
unique	Unique elements of vector

Date - Time Operations

addtodate	Modify particular field of date number
calendar	Calendar for specified month
clock	Current time as date vector
cputime	Elapsed CPU time
date	Current date string
datenum	Serial date number
datestr	Convert serial date number to string
eomday	End of month
etime	Elapsed time
now	Current date and time
tic, toc	Stopwatch timer
weekday	Day of the week
echo	Echo M-files during execution
function	Function M-files
inputname	Input argument name
nargin	Number of function input arguments
nargout	Number of function output arguments
nargchk	Check number of input arguments
nargoutchk	Validate number of output arguments
pcode	Create preprocessed pseudocode file (P-file)
script	Describes script M-file
varargin	Accept variable number of arguments
varargout	Return variable number of arguments

Evaluation of Expressions and Functions

cellfun	Apply function to each element in cell array
echo	Echo M-files during execution
eval	Interpret strings containing MATLAB expressions
evalin	Evaluate expression in workspace
feval	Evaluate function
iskeyword	Determine if item is MATLAB keyword
isvarname	Determine if item is valid variable name
pause	Halt execution temporarily
run	Run script that is not on current path
script	Describes script M-file

Timer Functions

delete	Delete timer object from memory
disp	Display information about timer object
get	Retrieve information about timer object properties
isvalid	Determine if timer object is valid
set	Display or set timer object properties
start	Start a timer
startat	Start a timer at a specific timer
stop	Stop a timer
timer	Create a timer object
timerfind	Return an array of all visible timer objects in memory
timerfindall	Return an array of all timer objects in memory
wait	Block command line until timer completes

Variables and Functions in Memory

genvarname	Construct valid variable name from string
global	Define global variables
inmem	Return names of functions in memory
isglobal	Determine if item is global variable
mislocked	True if M-file cannot be cleared
mlock	Prevent clearing M-file from memory
munlock	Allow clearing M-file from memory
pack	Consolidate workspace memory
persistent	Define persistent variable
rehash	Refresh function and file system caches

Control Flow

break	Terminate execution of for loop or while loop
case	Case switch
continue	Pass control to next iteration of for or while loop
else	Conditionally execute statements
elseif	Conditionally execute statements
end	Terminate conditional statements, or indicate last index
error	Display error messages
for	Repeat statements specific number of times
if	Conditionally execute statements
otherwise	Default part of switch statement
return	Return to invoking function
switch	Switch among several cases based on expression
try	Begin try block
while	Repeat statements indefinite number of times

Function Handles

feval	Evaluate function
function_handle	Describes function handle data type
functions	Return information about function handle
func2str	Constructs function name string from function handle
isequal	Determine if function handles are equal
str2func	Constructs function handle from function name string

Opening, Loading, Saving Files

importdata	Load data from various types of files
load	Load all or specific data from MAT or ASCII file
open	Open files of various types using appropriate editor or program
save	Save all or specific data to MAT or ASCII file
uiimport	Open Import Wizard, the graphical user interface to import data

Text Files

csvread	Read numeric data from text file, using comma delimiter
csvwrite	Write numeric data to text file, using comma delimiter
dlmread	Read numeric data from text file, specifying your own delimiter
dlmwrite	Write numeric data to text file, specifying your own delimiter
textread	Read data from text file, write to multiple outputs
textscan	Read data from text file, convert and write to cell array

Images

iminfo	Return information about graphics file
imread	Read image from graphics file
imwrite	Write image to graphics file

Basic Plots and Graphs

box	Axis box for 2-D and 3-D plots
errorbar	Plot graph with error bars
hold	Hold current graph
LineStyle	Line specification syntax
loglog	Plot using log-log scales
polar	Polar coordinate plot
plot	Plot vectors or matrices.
plot3	Plot lines and points in 3-D space
plotyy	Plot graphs with Y tick labels on the left and right
semilogx	Semi-log scale plot
semilogy	Semi-log scale plot
subplot	Create axes in tiled positions
contour	Contour (level curves) plot
contour3	3-D contour plot
contourc	Contour computation
contourf	Filled contour plot
stem	Plot discrete sequence data
stem3	Plot discrete surface data
stairs	Stairstep graph

Annotating Plots

annotation	Create annotation objects
clabel	Add contour labels to contour plot
datetick	Date formatted tick labels
gtext	Place text on 2-D graph using mouse
legend	Graph legend for lines and patches
texlabel	Produce the TeX format from character string
title	Titles for 2-D and 3-D plots
xlabel	X-axis labels for 2-D and 3-D plots
ylabel	Y-axis labels for 2-D and 3-D plots
zlabel	Z-axis labels for 3-D plots

Animation

area	Area plot
bar	Vertical bar chart
barh	Horizontal bar chart
bar3	Vertical 3-D bar chart
bar3h	Horizontal 3-D bar chart
pareto	Pareto char
pie	Pie plot
pie3	3-D pie plot

Direction and Velocity Plots

comet	Comet plot
comet3	3-D comet plot
compass	Compass plot
feather	Feather plot
quiver	Quiver (or velocity) plot
quiver3	3-D quiver (or velocity) plot

Function Plots

ezcontour	Easy to use contour plotter
ezcontourf	Easy to use filled contour plotter
ezmesh	Easy to use 3-D mesh plotter
ezmeshc	Easy to use combination mesh/contour plotter
ezplot	Easy to use function plotter
ezplot3	Easy to use 3-D parametric curve plotter
ezpolar	Easy to use polar coordinate plotter
ezsurf	Easy to use 3-D colored surface plotter
ezsurfz	Easy to use combination surface/contour plotter
fplot	Plot a function

Histograms

hist	Plot histograms
histc	Histogram count
rose	Plot rose or angle histogram

Polygons and Surfaces

cylinder	Generate cylinder
ellipsoid	Generate ellipsoid
fill	Draw filled 2-D polygons
fill3	Draw filled 3-D polygons in 3-space
inpolygon	True for points inside a polygonal region
polyarea	Area of polygon
ribbon	Ribbon plot
slice	Volumetric slice plot
sphere	Generate sphere
waterfall	Waterfall plot

Animation

frame2im	Convert movie frame to indexed image
getframe	Capture movie frame
im2frame	Convert image to movie frame
movie	Play recorded movie frames
noanimate	Change EraseMode of all objects to normal

Controlling the Camera Viewpoint

camdolly	Move camera position and target
camlookat	View specific objects
camorbit	Orbit about camera target
campan	Rotate camera target about camera position
campos	Set or get camera position
camproj	Set or get projection type
camroll	Rotate camera about viewing axis
camtarget	Set or get camera target
cameratoolbar	Control camera toolbar programmatically
camup	Set or get camera up-vector
camva	Set or get camera view angle
camzoom	Zoom camera in or out
view	3-D graph viewpoint specification.
viewmtx	Generate view transformation matrices

Bit-Mapped Images

frame2im	Convert movie frame to indexed image
image	Display image object
imagesc	Scale data and display image object
iminfo	Information about graphics file
imformats	Manage file format registry
im2frame	Convert image to movie frame
ind2rgb	Convert indexed image to RGB image

Printing

orient	Hardcopy paper orientation
pagesetupdlg	Page setup dialog box
print	Print graph or save graph to file
printdlg	Print dialog box
printopt	Configure local printer defaults
printpreview	Preview figure to be printed
saveas	Save figure to graphic file

Object Creation Functions

axes	Create axes object
figure	Create figure windows
hggroup	Create a group object
hgtransform	Create a group to transform
image	Create image
light	Create light object
line	Create line object
patch	Create patch object
rectangle	Create rectangle object
surface	Create surface (quadrilaterals)
text	Create text object (strings)
uicontextmenu	Create context menu (popup associated with object)

Figure Windows

clc	Clear figure window
clf	Clear figure
close	Close specified window
figflag	Test if figure is on screen
gcf	Get current figure handle
hgload	Load graphics object hierarchy from a FIG-file
hgsave	Save graphics object hierarchy to a FIG-file
opengl	Change automatic selection mode of OpenGL rendering
refresh	Refresh figure
saveas	Save figure or model to desired output format

Axes Operations

axis	Plot axis scaling and appearance
box	Display axes border
cla	Clear Axes
gca	Get current Axes handle
grid	Grid lines for 2-D and 3-D plots
ishold	Get the current hold state

Operating on Object Properties

get	Get object properties
linkaxes	Synchronize limits of specified axes
linkprop	Maintain same value for corresponding properties
set	Set object properties

Predefined Dialog Boxes

dialog	Create and display dialog box
errordlg	Create and display error dialog box
helpdlg	Create and display help dialog box
inputdlg	Create and display input dialog box
listdlg	Create and display list selection dialog box
msgbox	Create and display message dialog box
pagesetupdlg	Display page setup dialog box
printdlg	Display print dialog box
questdlg	Display question dialog box
uigetdir	Display standard dialog box for retrieving a directory
uigetfile	Display standard dialog box for retrieving files
uiputfile	Display standard dialog box for saving files
uisave	Display standard dialog box for saving workspace variables
uisetcolor	Display standard dialog box for setting an object's ColorSpec
uisetfont	Display standard dialog box for setting an object's font characteristics
waitbar	Display waitbar
warndlg	Display warning dialog box

Deploying User Interfaces

guidata	Store or retrieve application data
guihandles	Create a structure of handles
movegui	Move GUI figure to specified location onscreen
openfig	Open new copy or raise existing copy of GUI figure
guide	Start the GUI Layout Editor
inspect	Display Property Inspector

Interactive User Input

ginput	Graphical input from a mouse or cursor
waitfor	Wait for conditions before resuming execution
waitforbuttonpress	Wait for key/buttonpress over figure