

Sample Function M- File

```
mystats.m function [mean, size] = mystats( x)
% Comments: This is the M- file help.
% Type this text in an editor; save as
% mystats. m.
% Typing help mystats displays these
% comments.
% From the MATLAB command line,
% call this function as
% [mn, data_size]=mystats([1 2 3])
% Actual computations done below.
if nargin == 1
    mean = sum( x)/ length( x)
    size = length( x)
elseif
    error('Please enter 1 input vector')
end
```

Commonly Used Commands

<code>get</code>	Obtain properties of a graphical object
<code>set</code>	Specify properties of a graphical object
<code>propedit</code>	Open the Property Editor for viewing and editing properties of graphical objects
<code>demo</code>	View listing of available demonstrations
<code>guide</code>	Open graphical user interface building tool
<code>image</code>	Display image
<code>polyfit</code>	Fit polynomial to data
<code>sound</code>	Play sound

Be sure to view the Getting Started documentation in MATLAB Help for additional tips and other MATLAB resources.

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MATLAB[®]

Quick Guide

A quick guide of commonly used commands for MATLAB



In MATLAB, type `doc functionname` for more information on any of these functions, or type `help` for a complete list of available functions.

Operators and Special Characters

<code>+, -, *, /</code>	Matrix math operators
<code>.*, ./</code>	Array multiplication and division
<code>^, .^</code>	Matrix and array power
<code>\</code>	Left division or linear optimization
<code>:</code>	Create linearly spaced vectors (e. g., <code>A= 1: 01: 10</code> , <code>A(90: end)</code>)
<code>()</code>	Index into matrix (e. g., <code>A(3,2)</code> pulls the third row, second column of A), and enclose function input arguments
<code>[]</code>	Create matrix (e. g., <code>A = [1 2; 3 4]</code> , <code>x= [1 2 3]</code>)
<code>{}</code>	Create and index cell array
<code>.</code>	Decimal point, or in a variable, denotes a structure (e. g., <code>user. Name = 'Paul'</code>)
<code>...</code>	Line continuation
<code>,</code>	Separate commands or elements in matrix
<code>;</code>	Denote new row in matrix definition, or at the end of command, suppress output (e.g., <code>A=[1; 3]</code> or <code>x= 5;</code>)
<code>%</code>	Comment
<code>!</code>	Call the operating system
<code>'</code>	Transpose, or quote for defining strings
<code>.'</code>	Nonconjugated transpose (for complex numbers)
<code>=</code>	Variable assignment
<code>==</code>	Equality
<code><> , <= , >=</code>	Relational operators
<code>&, , - , xor</code>	Logical AND , OR , NOT , and XOR

Starting and Quitting MATLAB

<code>finish</code>	MATLAB finish M- file
<code>matlabrc</code>	MATLAB startup M- file for system administrator or single- user system
<code>quit</code>	Terminate MATLAB
<code>startup</code>	MATLAB startup M- file for each user

Managing Commands and Functions

<code>addpath</code>	Add/ remove directories from MATLAB search path
<code>rmpath</code>	search path
<code>doc</code>	Show documentation for functions
<code>edit</code>	Open MATLAB Editor/ Debugger
<code>help</code> or <code>helpwin</code>	Display help for MATLAB functions and M- files
<code>helpbrowser</code>	Find and display documentation
<code>lookfor</code>	Keyword search through M- file help
<code>path</code>	Control MATLAB directory search path
<code>type</code>	List file
<code>version</code>	MATLAB version number
<code>what</code>	Directory of M- files, MAT- files, and MEX- files
<code>which</code>	Locate functions and files

Managing Variables and the Workspace

<code>clear</code>	Remove items from memory
<code>disp</code>	Display text or array
<code>length</code>	Length of vector
<code>load</code>	Retrieve variables from disk
<code>save</code>	Save workspace variables on disk
<code>size</code>	Array dimensions
<code>who, whos</code>	List directory of variables in memory

Elementary X- Y Graphs

<code>loglog</code>	Log- log scale plot
<code>plot</code>	Linear plot
<code>plotyy</code>	Graphs with y tick labels on the left and right
<code>polar</code>	Polar coordinate plot
<code>semilogx</code>	Semi- log scale plot for x- and y- axes
<code>semilogy</code>	

File Input/ Output

<code>dlmread</code>	Read/ write ASCII delimited file
<code>dlmwrite</code>	
<code>fopen</code>	Open generic text or binary file
<code>fprintf</code>	Write to generic text file
<code>fread</code>	Read generic binary file
<code>fscanf</code>	Read generic text file
<code>fwrite</code>	Write to generic binary file
<code>importdata</code>	Load data from file
<code>imread</code>	Read/ write image
<code>imwrite</code>	
<code>load</code>	Load MAT- file
<code>save</code>	Save variables to MAT- file
<code>textread</code>	Read formatted data from text file
<code>uiimport</code>	Open Import Wizard to load data
<code>wavread</code>	Read/ write Microsoft WAV- file
<code>wavwrite</code>	
<code>wk1read</code>	Read/ write spreadsheet file
<code>wk1write</code>	
<code>xlsread</code>	Read data from Microsoft Excel file

Programming

<code>eval</code>	Evaluate string as MATLAB expression
<code>function</code>	Keyword to create function M- file, e.g., <code>function[out1,out2]=mfilename(in 1,in2)</code>
<code>nargin</code>	Number of input/ output arguments to M- file
<code>nargout</code>	M- file
<code>pcode</code>	Create pseudocode of M- file
<code>profile</code>	Create profile report of your M- file's performance
<code>viewer</code>	
<code>varargin</code>	Variable number of input/ output arguments
<code>varargout</code>	