

## Some Useful MATLAB Functions, Operators and Control Structures

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### The Most Important Functions

help/doc  
why

### Array Creation Functions

eye  
linspace  
logspace  
meshgrid, ndgrid  
ones  
rand  
randn  
zeros

### Mathematical Operators

+  
-  
\* or .\*  
/ or ./  
\ or .\  
' or .' (transpose)

### Logical Operators

&, &&  
|, ||  
~  
>, >=  
<, <=  
==, ~=  
xor  
all, any

### Basic Mathematical Functions

abs  
acos, asin, atan, atan2  
angle  
conj  
cos, sin, tan  
exp  
log, log 10  
sqrt  
mean, median, std, kurtosis  
sum, prod

### Array Property Functions

length, numel  
ndims  
size  
min, max

### Array Manipulation Functions

sort  
cat  
circshift  
flipdim, fliplr, flipud  
permute, ipermute  
repmat  
reshape  
rot90  
shiftdim  
squeeze

### Advanced Mathematical Functions

cumsum  
fft, ifft, fftn, ifftn  
fftshift, ifftshift  
cond, condeig  
det  
trace

### Function Evaluation Functions

eval, evalin, feval, assignin

### Type Casting Functions

int2str, num2str  
str2double, str2num  
cell2mat  
struct2cell

### File Manipulations

fopen, fread, fwrite, fprintf  
csvread, csvwrite  
textread, textwrite  
xlsinfo, xlsread, xlswrite  
imread, imwrite  
dicominfo, dicomread, dicomwrite

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### Function Keywords

function  
nargin, nargsout  
varargin, varargout

### Reading/Printing Formatted Strings

strread  
textscan  
textread  
sprintf, fprintf

### Structure Manipulation Functions

isfield  
rmfield  
fieldnames

### Blank Space Functions

deblank  
strtrim  
isspace

### String Parsing Functions

strcmp, strcmpi, strcmpn  
findstr/strfind, strmatch  
regexp  
strrep, strtok  
sprintf

### Control Structures

if/(elseif)/(else)/end  
switch/case/(otherwise)/end  
while/end  
for/end  
try/catch/end

### Plot Controls

title  
xlabel, ylabel, zlabel  
xlims, ylims, zlims  
hold  
axis, axes  
zoom

### Curve Fitting/Optimization Functions

fit, lsqcurvefit, nlinfit  
fminsearch  
fzero  
fminbnd

### Graphics Objects Controls

gca,(gcf, gco, gcbo  
findall  
findobj  
get, set  
ishandle

### Statistical Functions

ttest, ttest2  
kstest, kstest2  
anova1, anova2, anovan  
signtest  
signrank  
vartest