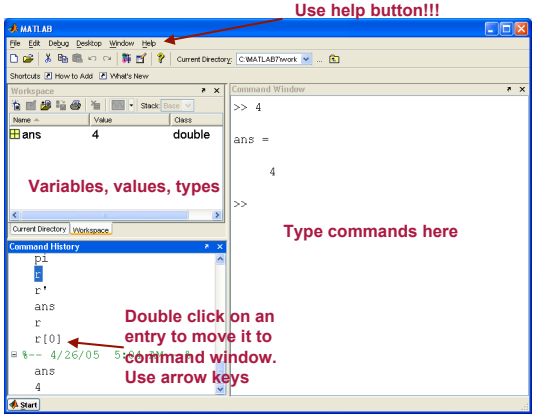
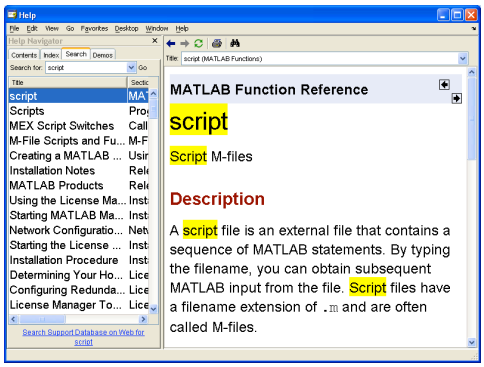
CS100J 26 April. Matlab



Scripts

Obtained by clicking help and searching for "script"



Scripts

Script file: is an external file that contains a sequence of MATLAB statements. Has extension .m, called M-file.

Type the filename to execute statements. Useful for automating blocks of MATLAB commands, such as computations you have to perform repeatedly from the command line.

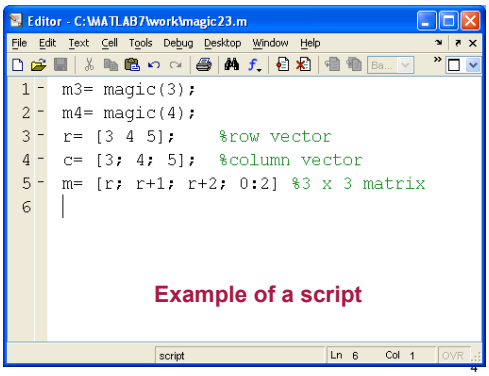
Scripts can operate on data in the workspace or can create new data on which to operate. Any variables they create remain in the workspace

No declarations or begin/end delimiters required.

Comments: Any text following a percent sign (%) on a given line is comment text. Comments can appear on lines by themselves or can appear after a statement on an executable line.

Created using File->New-> M-File. Stored automatically in folder work within MatLab. You can navigate to store it where you want. I

If you work in a Cornell lab, save your m-files on your own storage key or email them to yourself.



Conditional statements

```
if expression
   statements
end
```

```
if expression1
   statements1
elseif expression2
   statements2
else
   statements3
end
```

Found these by typing "if" into search window of Help

Logical operators.

0 represents false
Not-0 represents true
A & B
A | B
~A
Short circuit evaluation:
A && B
A || B

Found these by typing "logical operators" into search window of Help

Loops

```
for index= start: increment: end
   statements
End
```

If you leave out the increment, 1 is used.

```
while expression
   statements
end
```

Found this info by typing "loop" into search window of Help

```
%Example: binary search
t= (size(r));
nocols= t(2);
x= -5;
% Row Vector r is sorted.
% Store in h an integer that satisfies
%    r[1..h] <= x < f[h+1..nocols]
h= 0;
k= nocols+1;
%invariant: r[1..h] <= x < f[k..nocols]
while (h+1 < k)
   e= floor((h+k)/2);
   if (r(e) <= x )
      h= e;
   else k= e;
   end
end
```