

# MA1710: Key points in week 1 Matlab session

## Customizing your set-up/starting Matlab

Follow the instructions in section 1.1 and 1.2.

The following are created for you.

- ▶ A folder `h:\MatlabLevel1`.  
A possible location for your files.
  
  - ▶ A file `h:\my documents\matlab\startup.m`.  
This is run each time Matlab starts.
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Further comments about the set-up are in section 1.5.

## Using Matlab as a calculator

This is described in section 1.3.

You type things in the command window.

There are examples using +, -, \*, /, ^ and brackets ().

Scientific form of numbers:  $5.2 \times 10^{-6}$  is written as 5.2e-6.

There are examples with some standard functions: sqrt, exp, sin, cos, tan and abs.

## Using variables

This is described in section 1.4.

With variables you can store results and you can use variables in subsequent expressions.

A statement such as

$a=a+1$

is an example of an **assignment statement**.

The use of = in an assignment statement is not the same as what the symbol = means in an equation.

# Using the editor and creating script files

This is described in section 1.5. To solve a specific quadratic  $ax^2 + bx + c = 0$  we might have the following.

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```
% coefficients of the quadratic
a = 2; b = -6; c = -8;

% let d be the discriminant and s its square root
d = b^2 - 4*a*c;
s = sqrt(d);

% now use the formula for the two values
x1 = (-b-s)/(2*a);
x2 = (-b+s)/(2*a);

disp('two solutions of this quadratic are')
disp(x1)
disp(x2)
```