

# ECE 257 - LESSON 0 - THE VERY BASICS

SPRING 2007

A.P. FELZER

## IN CLASS

Matlab is a program for doing calculations and drawing graphs that makes extensive use of matrices and arrays. The objective of this first exercise is to learn how to use Matlab as a calculator by typing the following code into the command window.

### 1. Assigning values to Matlab variables

```
>> x=5
>> x=6;
>> x
>> % x=7
>> x
>> who
>> whos
>> clc
>> x
>> clear
>> x
```

- What does the semicolon do
- What does the percent sign do
- What does clc do
- What does clear do

### 2. Some basic math functions

```
>> y1 = 2*3
>> y2 = 2^3
>> y3 = sqrt (10)
>> y4 = cos (2)
>> y5 = exp (2)
>> y6 = log10 (10)
>> y7 = log (10)
>> y8 = cos (2)
>> y9 = Cos (2)
```

- What is the meaning of  $\wedge$
- What is the meaning of *exp*
- What is the difference between  $\log_{10}(10)$  and  $\log(10)$
- Is the argument of the cosine in radians or in degrees
- Is Matlab case sensitive
- What is the syntax for variables

### 3. Help

```
>> help cos
```

- What does help do

#### 4. Scientific notation

```
>> y1 = 2*10^2  
>> y2 = 2e2  
>> y3 = 2e-2
```

- a. What does e do

#### 5. What happens when we divide by 0

```
>> y1 = 2/0  
>> y2 = 0/0
```

- a. What is inf
- b. What is Nan

#### 6. How Matlab is different from Excel

```
>> x = 3  
>> y = x+2  
>> x = 7  
>> y  
>> y = x + 2
```

- a. How is Matlab different from Excel

#### 7. Imaginary numbers

```
>> sqrt(-1)  
>> i  
>> j
```

- a. Why do we not want to use i and j as variables

#### 8. Aborting a program

<ctrl> c will abort a program