

Lecture 5

Operator Precedence
Symbols & Equations

OR, AND

Tables

Sorting

Lookup

Operator Precedence

Operator	Description
()	Parentheses
-	Negation (as in -1)
%	Percent
^	Exponentiation
* and /	Multiplication and division
+ and -	Addition and subtraction
&	Connects two strings of text (concatenation)
=	Comparison
< >	
<=	
>=	
<>	

***** NOT EXACTLY THE SAME IN MATLAB *****

Arithmetic operators

Operator	Description
()	Parentheses
-	Negation (as in -1)
%	Percent
^	Exponentiation
* and /	Multiplication and division
+ and -	Addition and subtraction

Don't confuse Subtraction and Negation.

Examples

Operator
()
-
%
^
* and /
+ and -

	<i>Excel</i>	<i>Matlab</i>
=3*5-1	14	14
=7+4*2	15	15
=(7+4)*2	22	22
=-1+sqrt(25)	4	4
=- (1+sqrt(25))	-6	-6
=-5^2	25	-25
=10^-2	.01	.01
=12/4/2	1.5	1.5
=3--2	5	5

Symbols and Equations

INSERT->Symbol

for things like \pm , \div , μ , Δ . Good for plot labels, annotations.

INSERT->Equation

Gives you an equation box, kind of like a text box, but it has its own editor on the DESIGN tab

These are also present in Word and Powerpoint.

OR and AND Logical Functions

- Logical functions return TRUE or FALSE

- Syntax:

=OR(expression1, expression2)

=AND(expression1, expression2)

- Example: Call a part accepted or rejected with only one IF statement

=IF(OR(B9>4.6, B9<4.4), "REJECT", "ACCEPT")

or

=IF(AND(B9>=4.4, B9<=4.6), "ACCEPT", "REJECT")

Sorting

Consider this table of data imported from some source

Station	Date	Temp (°C)
A02	2/24/2008	23.5
A07	1/15/2008	14.6
A02	2/15/2008	0.5
B05	2/3/2008	20
B05	1/12/2008	34.3
C12	1/5/2008	20.2
A02	2/21/2008	19.62
B05	2/1/2008	22.3

Sort with Sort function: DATA->Sort
Use Add Level to sort on two levels

Table

Make a Table with column headers

- Select table cells, including column headings
- Select INSERT->Table
- Click column headings to sort

	A	B
1	Column1	Column2
2	1	6
3	2	7
4	3	8
5	4	9
6	5	10
7	6	11
8	7	12
9	8	13
10	9	14
11	10	15
12	11	16
13	12	17
14	13	18
15		

In-class exercise

- Import census_data.csv
- Make into a table
- Sort by clicking on columns

- Pie chart
- Bar chart