

Course N°01 Introduction to the MATLAB environment



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📣 MATLAB®



The MATLAB environment

The MATLAB program displays a number of windows on startup:

- ✓ Current folder : indicates the current directory and existing files
- ✓ Command window : we use it to formulate our expressions and interact with MATLAB, and it's the most widely used window.
- \checkmark Command history : keeps track of all commands entered by the user.
- ✓ Workspace : indicates all existing variables with their types and values



Command w	Command window									
clear	Deletes all program variables (from memory)									
clear x y	Deletes only variables x, y (from memory)									
clc	Deletes the contents of the command window screen									
quit	Quitter MATLAB									
exit	exit Exit MATLAB									
ans	Most recent answer (MATLAB uses a default variable 'ans' to store the result)									

Arithmetic of	Arithmetic operator									
+	Addition (see, Fig 1)									
-	Subtraction (see, Fig 1)									
*	Multiplication (see, Fig 1)									
/	Division left (see, Fig 2)									
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Constants an	Constants and special characters								
pi	π (see, Fig 3)								
inf	∞ infinite, is produced when dividing a non-zero number by zero (see, Fig 3)								
NaN	No-Number (Not-a-Number) when there is no digit to display (inf/inf where 0/0) (see, Fig 3)								
factorial(6)	$6! = 6 \times 5 \times 4 \times 3 \times 2 \times 1 \text{ (see, Fig 3)}$								



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Trigonometric functions	
$\cos(x)$	Cosinus (see, Fig 4)
sin(x)	Sinus (see, Fig 4)
tan(x)	Tangente (see, Fig 4)
acos(x)	Arc cosinus
asin(x)	Arc sinus
atan(x)	Arc tangente



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Mathematical functions	
exp(y)	Exponential e^y (see, Fig 5)
log <mark>(y)</mark>	Neperian logarithm $\ln(y)$ (see, Fig 5)
log10(y)	Decimal logarithm $\log 10(y)$ (see, Fig 5)
sqrt(y)	Root \sqrt{y} (see, Fig 6)
x^y	Power x^{y} (see, Fig 6)
inv(y)	Inverse $\frac{1}{y}$ (see, Fig 6)



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List of References

MATLAB A Practical Introduction to Programming and Problem Solving

MATLAB A Self-Teaching Guide

MATLAB for Beginners





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