



Computer Laboratory





MATLAB[®] - The Language of Technical Computing

The company:

The MathWorks[®] - Accelerating the pace of engineering and science





Year	Version
1978	Classic MATLAB
1984	MATLAB 1
1885	MATLAB 2
1987	MATLAB 3
1992	MATLAB 4
1997	MATLAB 5
2000	MATLAB 6 (R12)
2002	MATLAB 6.5 (R13)
2004	MATLAB 7.0 (R14)
2007	MATLAB 7.4 (R2007a)
2007	MATLAB 7.4 (R2007b)

Notable Features

- Original Fortran version
- Rewritten in C
- 30% more commands and functions
- Colour and high resolution graphics printing
- Sparse matrixes, animations, debugger, windows support
- Profiler, object-oriented, multi-D arrays,
 - Desktop, PDE's, Java support
 - Performance acceleration, core algebra for Pent4
- M-file to HTML, LaTex and others
- Performance acceleration, more toolboxes
- C code generation from Embedded MATLAB functions directly at the MATLAB command line



Digital Technology Group

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MATLAB

References

- MATLAB GUIDE by Higham and Higham
- Wikipedia
 - . http://en.wikipedia.org/wiki/MATLAB
- The MathWorks
- Computing Service
 - . http://www.cam.ac.uk/cs/courses/coursedesc/full.html#extmatlab



MATLAB

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1- Automatic Storage Allocation

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2- Variable Arguments Lists

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2- Variable Arguments Lists

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- **3-** Complex Arrays and Arithmetic
 - The fundamental data type: a multidimensional array of complex numbers.
 - Fortran, two data types (real/imaginary)
 - C, C++, and Java only real
- · Pitfalls
 - Redefining imaginary numbers
 - Max, min, sort for real and complex data

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Matrices

- Generation
- -Manipulation

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Writing m-files



Debugging m-files



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Built-in functions

- Help files
- Data analysis
- Equation solving

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Limitations

- Licenced product
- y = f(x) ambiguity
- Arrays initial index is 1
- No references

