

Five Lectures on Maple: Overview

Part I: Basic concepts

- 1 General principles
 - 2 Entering commands
 - 3 Basic operations; types of objects
 - 4 Graphics
 - 5 Fundamental data structures
 - 6 User-defined functions
 - 7 Equations and systems of equations
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Part II: Analysis with Maple; Programming

- 1 Limits and series
 - 2 Functions, differentiation, integration, ...
 - 3 Control structures
 - 4 Procedures
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Part III: Data structures; Procedures in more detail; Data output

- 1 Tables
 - 2 Arrays
 - 3 Vectors and Matrices
 - 4 Storage management
 - 5 Stack, queue, heap
 - 6 General form of a procedure; examples
 - 7 Argument evaluation in procedure calls
 - 8 Evaluation rules for variables
 - 9 CPU stop watch
 - 10 Formatted output; using data files
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Part IV: [Numerical] Linear Algebra

- 1 Vectors and Matrices
- 2 Package LinearAlgebra: Basic Operations
- 3 Some useful general functions from LinearAlgebra
- 4 Finding a rule by experiment
- 5 Numerical Linear Algebra I: The basics
- 6 Numerical Linear Algebra II: Hardware floats
- 7 Numerical Linear Algebra III: Examples

Part V: Extensions; some special topics

- 1 Polynomial equations and systems
- 2 Differential equations
- 3 Some further useful commands
- 4 Interactive input
- 5 Source code on external files
- 6 Flexible argument lists
- 7 Useful packages
- 8 Final remarks

Extra topic:

Demonstration of a parallel computation in Maple using the Grid package
