

Introduction to Symbolic Computation for Engineers

Juana Sendra, Sonia Rueda

(Universidad Politécnica de Madrid)

2.-PROGRAMMING SYSTEMS IN COMPUTATIONAL MATHEMATICS: → MAPLE.

- **Maple:**

This system has been developed at the University of Waterloo by a group directed by K.O. Geddes and G. H. Gonnet, starting around 1980. It is designed to have a relatively small kernel, so that many users can be supported at the same time. It is currently one of the most widely used computed algebra system.

- **Mathematica:**

It is a relatively young computer algebra system. It has been developed by S. Wolfram Research Inc. Notable are its links to numerical computation and graphical output.

- **Macsyma:**

Starting in the late 1960's it was developed at the Massachusetts Institute of Technology (MIT) under the direction of J. Moses. It contains one of the biggest libraries of algebraic algorithms available in any computational system.

- **Derive:**

This is the only general purpose computer algebra system which has been written for the limited resources available on PCs and other small machines. (University of Hawaii)

- **Reduce:**

Also in the late 1960's, it was developed at the University of Utah. Reduce started out as a specialized system for physics.

- **Axiom:**

At the IBM research center at Yorktown Heights a group directed by R.D. Jenks has for a long time been developing the Scratchpad system. Recently it has been renamed Axiom. It is a modern system in several ways, providing generic algorithms and a natural mathematical setting in which to implement algorithms.

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