

Symbolic and Numeric Solution of DEs in Maple 7

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An overview is presented of recent advances in Maple for both symbolic and numeric solution of differential equations. Techniques for computing exact symbolic solutions include decision procedures for special types of DEs, the classification of DEs into known classes, and symmetry-based methods. New numerical solvers which have been incorporated into Maple 7 take full advantage of hardware floating point speed, for both IVPs and BVPs. Some ideas for exploiting hybrid symbolic-numeric computational strategies will be mentioned.