Maple package generating Painleve equations

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Painleve equations play an important role in theory of integrable nonlinear equations. Several books are devoted to the theory of Painleve equations [1],[2].Painleve equations can be generated via linear Heun equations [3, 4, 5].

The corresponding calculations are simple in principle however boring in realization. Our goal was to simplify the computations by using ACS Maple. Ingoing data are Heun type equations and the outgoing data are various Painleve equations. In this manner our package can cover all Heun equations and Painleve equations presented in NIST project [6].We present the structure of our package and give results of particular computations.

References

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