

# The Kovacic Algorithm

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## **Abstract**

The Kovacic Algorithm is a procedure for determining the existence of a Liouvillian (i.e. closed-form) solution to a second-order linear homogeneous differential equation with polynomial coefficients. If existence is established then the algorithm constructs the solution. In this talk I will define a Liouvillian differential field, state Kovacic's theorem and apply the algorithm to a simple example.