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A generic polynomial solution for the differential equation of hypergeometric type and six sequences of orthogonal polynomials related to it. (English summary)

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In this paper the authors consider the differential equation of hypergeometric type

$$\sigma(x)y_n''(x)+\tau(x)y_n'(x)-\lambda_n y_n(x)=0. \tag{E}$$

They present a generic formula for the polynomial solution families of the equation (E), and show that all the three classical orthogonal polynomial families as well as the three finite orthogonal polynomial families can be identified as special cases of the derived generic polynomial sequence. Some general properties of this sequence are also studied.

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Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.