Computing the Generating Function of a Series Given Its First Few Terms

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Abstract

We outline an approach for the computation of a good candidate for the generating function of a power series for which only the first few coefficients are known. More precisely, if the derivative, the logarithmic derivative, the reversion, or another transformation of a given power series (even with polynomial coefficients) appears to admit a rational generating function, we compute the generating function of the original series by applying the inverse of those transformations to the rational generating function found.