Generating functions

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Abstract

Starting with a population of one (asexually reproducing) rabbit, when is there a nonzero probability that the population will eventually die off after many generations? The solution to this extinction problem employs generating functions. Generating functions, which are power series associated with specific sequences, surprisingly allow us to use techniques for power series (often continuous ones) to discover information about discrete sequences. This talk demonstrates their applications to different areas of math, focusing mainly on the question posed above.

References

[1] Herbert S. Wilf. *generatingfunctionology*. Academic Press, 1994.