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Generalization of an identity of Andrews,
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Abstract

We consider an identity relating Fibonacci numbers to Pascal's triangle discovered by G. E. Andrews. Several authors provided proofs of this identity, all of them rather involved or else relying on sophisticated number theoretical arguments. We not only give a simple and elementary proof, but also show the identity generalizes to arrays other than Pascal's triangle. As an application we obtain identities relating trinomial coefficients and Catalan's triangle to Fibonacci numbers.