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Binomial coefficients and Arithmetic Progression in an Alternating Series with its interpretation in Vector Space NITIKA SACHDEVA, BHAGWAN PARSHURAM INSTITUTE OF TECHNOLOGY — A series is defined using terms of arithmetic sequence taken along with binomial coefficients nCr. By deriving it in all the subsequent sections of Pascal's hexagon, the series is extended for nCr where n,r belong to R.Further, it is analysed in a vector space and is found to be a subspace of it. The series is studied as a scalar product of three-dimensional vectors where some of the findings are generalized for n-dimensions.

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