

1067-11-628

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University, Radford, VA 24142. *Extensions of Eulerian Numbers to More General Triangular
Arrays.*

We realize that the first-order Eulerian numbers are nothing but the coefficients in a linear combination of binomial coefficients for the powered sum of the natural sequence. Doing the same for the Stirling numbers of both kinds, we obtain the second-order Eulerian numbers and alternate Eulerian numbers. By generalizing these numbers for arithmetically progressive sequences, we further recognize recursive formulas of such numbers for any sequence in a commutative ring. Based on various recursive formulas, we obtain a broader spectrum of triangular arrays of numbers for the underlying sequences such as Fibonacci numbers and q -sequence (powers of q). (Received September 22, 2010)