**$p$-adic pictures from irresistible sequences**

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Legendre's formula

$$\nu_p(n!) = \frac{n - s_p(n)}{p-1}$$

is the simplest instance of the $p$-adic valuation for a sequence defined by a first order recurrence

$$t_n = Q(n)t_{n-1}.$$

Here $Q$ is a polynomial with integer coefficients and $s_p(n)$ is the sum of the digits of $n$ in base $p$.

In this talk we describe the asymptotics of $\nu_p(t_n)$ as $n \to \infty$.

The extension to the case

$$t_n = Q_1(n)t_{n-1} + Q_2(n)t_{n-2}$$

will be illustrated with the $p$-adic valuation of Stirling numbers.

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