1014-11-670 **Donald D Mills*** (dmills@math.siu.edu), Department of Mathematics, SIUC, Carbondale, IL 62901-4408. *Polynomial Sequences Generated by Fibonacci & Lucas Numbers.* Preliminary report.

Given the Fibonacci and Lucas sequences, defined as $\{f_1, f_2, f_3, ...\} = \{1, 1, 2, ...\}$ and $\{l_1, l_2, l_3, ...\} = \{1, 3, 4, ...\}$ respectively, we define corresponding polynomial sequences $\mathbf{p}_f$ and $\mathbf{p}_l$. Specifically, for $\mathbf{p}_f$ we set $p_{f,0}(x) = 1$ and $p_{f,i}(x) = xp_{f,i-1}(x) + f_{i+1}$ for $i \geq 1$, with $p_{f,j}(x) = \sum_{k=0}^{j} f_{k+1}x^{j-k}$. The sequence $\mathbf{p}_l$ is similarly defined. Then $p_{f,j}(x)$ (respectively, $p_{l,j}(x)$) is called the *Fibonacci-coefficient polynomial*, or *FCP*, of order j (respectively, the *Lucas-coefficient polynomial*, or *LCP*, of order j), and we observe that the elements of said sequences are distinct from the well-known Fibonacci and Lucas polynomial sequences, respectively. We address several properties of these polynomials, including the number of real roots of each polynomial, the number of rational roots of each, and Mahler measures of various reduced forms of said polynomials.

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