1145-11-826   **Sergiy Koshkin*** (`koshkins@uhd.edu`). *Linear divisibility sequences and cyclotomic polynomials.*

Divisibility sequences are defined by the property that if $m|n$ then $a_m|a_n$. Those of them that also satisfy a linear recurrence, like the Fibonacci numbers, are generated by polynomials that divide themselves composed with every positive integer power. We completely characterize such polynomials and their factorizations into cyclotomic polynomials in terms of simple diagrams. We also determine when they generate strong divisibility sequences, i.e. $\gcd(a_m, a_n) = a_{\gcd(m,n)}$. (Received September 15, 2018)