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Nicholas A Scoville* (nscoville@ursinus.edu), Ursinus College, Math and CS, 601 E. Main Street, Collegeville, PA 19426, and **Dominic Klyve**. *Discrete Morse theory at the service of elementary number theory*. Preliminary report.

Discrete Morse theory is a tool used to study many questions in topology and combinatorics. A discrete Morse function on a simplicial complex K can be thought of as a blueprint for building K in stages. Part of the information given by the blueprint is the homological sequence which keeps track of how the topology changes at each step of the construction. In this talk, we utilize discrete Morse theory to explore the interaction between discrete Morse functions defined in terms of elementary operations such as sums, products, and least common multiples. We study the resulting homological sequence and its connections to elementary number theory function. (Received August 18, 2014)