

1125-VN-1487

Yasanthi Kottegoda* (ykottegoda@newhaven.edu). *Exploring the characteristics of modulo one sequences*. Preliminary report.

Modulo one sequences is a special category of sequences of pairwise relatively prime positive integers where an old idea of working with modulo arithmetic simultaneously in order to speed up computer arithmetic is used in the construction of these sequences. Let m_1, m_2, \dots, m_t be positive integers that are pairwise relatively prime. Set $M = m_1 m_2 \cdots m_t$ and $M_i = M/m_i$. Then the sequence is defined as a mod one sequence if $M_i \equiv 1 \pmod{m_i}$ for each i . I also discuss the necessary and sufficient conditions for the existence of the sequence and prove that there are such sequences of arbitrary length. Additionally, results on classification of the mod one sequences based on its length with the examples obtained from observations using MATHEMATICA will be discussed. (Received September 17, 2016)