

Abstract

Experimental results show that, when the order n is odd, there are de Bruijn sequences such that the corresponding complement sequence and the reverse sequence are the same. In this talk, we propose one efficient method to generate such de Bruijn sequences. This solves an open problem asked by Fredricksen forty years ago for showing the existence of such de Bruijn sequences when the odd order $n > 1$. Moreover, we refine a characterization of de Bruijn sequences with the same complement and reverse sequences and study the number of these de Bruijn sequences, as well as the distribution of de Bruijn sequences of the maximum linear complexity.