1056-Z1-974 **Thomas Koshy*** (`tkoshy@framingham.edu`), Department of Mathematics, Framingham State College, 100 State Street, Framingham, MA 01701-9101. *Lobb's Generalization of Catalan's Parenthesization Problem and Forder's Catalan Triangle.*

A. Lobb's investigation in 1999 of a generalization of Catalan's parenthesization problem introduced a class of numbers $L_{n,m}$ and another class of numbers $K_{n,m}$. Both can be extracted from Pascal's triangle, and used to establish that every Catalan number C_n can be expressed as a sum of $\lfloor n/2 \rfloor + 1$ integers.

Arrays $L = (L_{n,m})$ and $K = (K_{n,m})$ can be used to construct an array $C = (c_{n,j})$, studied by H. G. Forder in 1961. Array C gives the number of paths a rook can take from the upper left-hand corner on an $(n+1) \times (n+1)$ chessboard to the lower right-hand corner without crossing the main diagonal. There is a bijection between the set of such paths and the set of well-formed sequences with n pairs of left and right parentheses. The many other properties of C include the fact that $c_{n,j}$ is odd if and only if either $n = 0$ or n is a Mersenne number. (Received September 19, 2009)