

Toward an Understanding of Skewed Top Corridors

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Abstract

A lattice consists of points \mathbb{Z}^2 with certain restrictions. We will study paths in the lattice with two allowable moves, up-right and down-right. The lattice path enumeration model that we propose consists of a starting point, an upper and lower bound, and all possible paths from said starting point to some end point. The area in which the paths are propagated is referred to as a corridor. The number of paths within the corridor depend on the initial values of the starting point, the nature of the upper and lower bounds, and the value placed at the starting point. In our model, the lower bound is a line with zero slope and the upper bound is a line with a variable slope, a model that we call a skewed-top corridor. Although the data changes because of the upper bound's slope, intriguing patterns and characteristics have been observed in the configurations of this environment.