Abstract

By combinatorial arguments, we prove that the number of self-avoiding walks on the strip \( \{0, 1\} \times \mathbb{Z} \) is \( 8F_n - 4 \) when \( n \) is odd and is \( 8F_n - n \) when \( n \) is even. Also, when backwards moves are prohibited, we derive simple expressions for the number of length \( n \) self-avoiding walks on \( \{0, 1\} \times \mathbb{Z}, \mathbb{Z} \times \mathbb{Z} \), the triangular lattice, and the cubic lattice.