Expectation for Success Run Distributions and Fibonacci Numbers

Davorin Dujmovic

Department of Mathematics and Computer Science
Mount Saint Mary’s University
16300 Old Emmitsburg Rd
Emmitsburg, MD 21727

Abstract

We study the relation between success run distributions and generalized Fibonacci numbers. New simple formulae are developed for the expectation of success runs using only generalized Fibonacci numbers. The general theorems are tested with C++ computer programs using fast Mersenne Twister random number generator.

Key words: Success Run, Fibonacci Numbers

Preprint submitted to Elsevier Science 3 January 2004