

Brian Curtin, Ena Salter and David Stone
Some formulae for the Fibonacci numbers,
Fibonacci Quart. **45** (2007), no. 2, 171–180.

Abstract

Using elementary methods, we derive formulae for the shifted summations $\sum_{j=0}^{d-1} F_{n+j} F_{m+j}$, $\sum_{j=0}^{d-1} L_{n+j} L_{m+j}$, and $\sum_{j=0}^{d-1} F_{n+j} L_{m+j}$ and the shifted convolutions $\sum_{j=0}^{d-1} F_{n+j} F_{d-m-j}$, $\sum_{j=0}^{d-1} L_{n+j} L_{d-m-j}$, and $\sum_{j=0}^{d-1} F_{n+j} L_{d-m-j}$ for positive integers d and arbitrary integers n and m .