Abstract

This study investigate the Fibonacci and Lucas sequences at neg- ative indices. In this paper we give the formulas of F􀀀(nk+r) and L􀀀(nk+r) depending on whether the indices are odd or even. For this purpose we con- sider a special matrix and we give various combinatorial identities related with the Fibonacci and Lucas sequences by using the matrix method. Some of the resulting identities are well known identities in the literature, but some of these are new.