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*Iteration of Certain Arithmetical Functions of Particular Lucas Sequences,*  
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**Abstract**

Let  $u(a, b)$  be a Lucas sequence satisfying the second-order recursion relation  $u_{n+2} = au_{n+1} + bu_n$ , where  $b = \pm 1$ ,  $a$  is an integer, and  $u_0 = 0$  and  $u_1 = 1$ . Let  $m$  be a positive integer, and let  $\pi(m)$  denote the period of  $u(a, b)$  modulo  $m$ , and  $\rho(m)$  denote the restricted period of  $u(a, b)$  modulo  $m$ . It is shown that iterates of  $\pi(m)$  and  $\rho(m)$  end in either a fixed point or a cycle of length two, and all these possible fixed points and two-cycles are explicitly determined.