

**Review Form 1.7**

Journal Name:	<b>Journal of Advances in Mathematics and Computer Science</b>
Manuscript Number:	<b>Ms_JAMCS_113401</b>
Title of the Manuscript:	<b>On the convolution of the k-Lucas sequences</b>
Type of the Article	<b>Research paper</b>

**Review Form 1.7**

**PART 1: Review Comments**

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><b>Compulsory</b> REVISION comments</p> <ol style="list-style-type: none"> <li><b>Is the manuscript important for scientific community?</b> (Please write few sentences on this manuscript)</li> <li><b>Is the title of the article suitable?</b> (If not please suggest an alternative title)</li> <li><b>Is the abstract of the article comprehensive?</b></li> <li><b>Are subsections and structure of the manuscript appropriate?</b></li> <li><b>Do you think the manuscript is scientifically correct?</b></li> <li><b>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></li> </ol> <p><b><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></b></p>	<p>Dear Author, your paper is technically good, and offers new results. Your paper fits in the journal.</p> <p>I have two objections against the paper:</p> <ol style="list-style-type: none"> <li>Your audience is partly non-expert on the Lucas sequences. Why don't you give the reader a small perspective/snapshot on the matter: what does this paper offer, compared to other works [1,2], on convolved k-Lucas and Fibonacci sequences?</li> <li>Your paper is extremely sloppy. For an example: you have two different 'Definition 1' on page 2 and page 6. More examples of sloppiness I give below.</li> </ol> <p><b>Typo's, suggestions for improvements and discussions</b></p> <ol style="list-style-type: none"> <li>Abstract, Lines 1 - 2, 'in a similar form that the iterated convolution' is wrong. It should read 'in a form similar to the iterated convolution'.</li> <li>Your AMS classification is obsolete. Current is the <b>MSC2020</b> classification <a href="https://zbmath.org/classification/">https://zbmath.org/classification/</a>. On top of this: to me it seems that classifications 11C20 and 15A36 are wrong for your reported work in this paper. Your work includes recurrences, so you could consider to add 65Q30. In your 2011 paper on convolved Lucas sequences you mention 11B83. Why not here also?</li> <li>Your stepping-up to formula (2) is beautifully said, via Wilf's 'Generatingfunctionology' book. But . . . the result already appeared in 1977 in Hoggatt and Bricknell-Johnson. So, I think you should refer to that paper [3].</li> <li>Page 3, line 1, 'is obtained applying' should read 'is obtained by applying'.</li> <li>Page 3, lines 1,2 after formula (1), you say two times 'and the'. This could be cleared up by replacing it by 'we have', or 'the classical Fibonacci numbers <b>are</b>', without the word 'and'. Similar construction applies to the Pell numbers.</li> <li>Determiners are missing in the opening of some of your sentences: <ol style="list-style-type: none"> <li>Page 2, 'Characteristic equation' should read 'The characteristic equation'; Page 2, at two places 'Generating function of the . . .' should read 'The generating function of the ...'</li> <li>Page 6, 'Classical Lucas sequences ...' should read 'The classical Lucas sequences ...'</li> <li>Page 10, mid page, 'Second convolved classical...' should read 'The second convolved classical...'</li> </ol> </li> <li>Page 3, in Ch.1.2 and Ch.1.3 you say twice 'By induction, we can prove the following identities ...' Here you do not refer to your predecessor paper on the convolved k- Fibonacci numbers. Why not? The reader should be helped, instead of put at work.</li> </ol>	

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8. Page 4, line 3 above formula (2), 'and taking' should read 'by taking'.
9. Page 5, line 1, 'if we' should read 'is to'.
10. Page 5, line 5, 'without more than changing' should read 'by simply changing'.
11. Page 5, just below mid page, 'There are necessary' should read 'There are necessarily'.
12. Some of your sentences using 'and', abusively miss a verb. Example:  

P. 6, 'For  $k = 1$  and the classical Lucas sequences' should read ' For  $k = 1$  the classical Lucas convolved sequences are'.
13. Below this sentence in the second 5-lines table at page 6 you forgot to substitute the classical case  $k = 1$  in the five lines.
14. Page 7, 6 lines from below, 'that in the' should read 'which in the'.
15. Page 10, line 3 from below you refer for the third or fourth time to your result of the ' $f(k,x)$ ' formula, from the last line of the reference [4]. By the way: your Ch.3.1 in current paper is too brief, it should be worked out.
16. Your first reference [1] misses page numbers.

**References**

1. Dresden, G.; Wang, Y. A General Convolution Identity. <https://dresden.academic.wlu.edu/files/2021/08/Universal.pdf> **2021**, *0*, 1–14.
2. Ye, X.; Zhang, Z. A common generalization of convolved generalized Fibonacci and Lucas polynomials and its applications. *Appl. Math. Comput.* **2017**, *306*, 31–37.
3. Hoggatt Jr., V.E.; Bicknell-Johnson, M. Fibonacci convolution sequences. *Fibonacci Q.* **1977**, *15*, 117–122.
4. Falcon, S. On the  $k$ -Lucas Numbers. *Int. J. Contemp. Math. Sci.* **2011**, *6*, 1039–1050.

**Editor**

Esteemed Editor, this paper reports good work, however, it is not well written.  
The bad sides of the paper are:

1. Perspective is missing. The paper offers technicalities, but does not say what is different from previous paper on the subject, not what other works on convolved Lucas sequences publish.
2. Many bad sentences in English.

I recommended to publish the paper, after modification.

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<b>Minor</b> REVISION comments		
1. Is language/English quality of the article suitable for scholarly communications?		
<b>Optional/General</b> comments		

**PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

**Reviewer Details:**

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