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Correspondence

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86-04-24

Neil J.A. Sloane,
AT&T Bell Laboratories, Room 2C-376
600 Mountain Avenue,
Murray Hill,
New Jersey 07974. U.S.A.

Dear Neil,

Yet another intriguing sequence!

Richard Laatsch, Measuring the abundancy of integers, *Math. Mag.*
59 (1986)84-92.

Top of p.88 is

1,1,2,3,5,8,13,20,34,53,88,143,236,387,641,1061,1763,2937,4903,8202,13750,23095,...

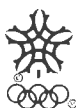
(extended with the aid of his Table A on the previous page) which, at least at first, is very Fibonacci-like. Also yet another example of the Strong Law of Small Numbers!

Best wishes,

Yours sincerely,

Richard K. Guy.

RKG:jw



The Mathematical Association of America

2/23/88

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PUBLISHER OF

THE AMERICAN MATHEMATICAL MONTHLY

Department of Mathematics
University of Calgary
Calgary, Alberta, Canada T2N1N4
88-02-23

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Richard Guy
Associate Editor

Unsolved Problems

N.J.A. Sloane,
AT&T Bell Laboratories, Room 2C-376,
600 Mountain Avenue,
MURRAY HILL, N.J. 07974

Dear Neil,

Various things. ✓

1. Because I often think of things to write to you about, I occasionally start a running letter. Evidently I did so last May, and forgot all about it. See Enclosure 1. ✓

2. May I add another item, (c) below, to the things for which I hope you are acting as an intermediary between myself and J.H.C.? ✓

(a) When would he like, tolerate, or whatever, a visit from me to finish (?) writing *The Book of Numbers*? ✓

(b) What comments does he have (and what do you) on the proposed chapter on Combinatorial Games that I've drafted for Ron Graham et al's Handbook of Combin.? ✓

(c) (or you may be able to answer this yourself without worrying JHC). See Enclosure 2. ✓

3. I've been asked to review Conway and Niel J. Sloan [sic] on Sphere Packings, etc. What do I say? [Yes, obviously; but what do I say in the review?] ✓

4. Thanks for the fantastic bundle of offprints & preprints. I shall lose no time in reading them. However do you find the time to write them? Two of the thirteen items didn't even have a coauthor. ✓

Best wishes,

Yours sincerely,

Richard

Richard K. Guy.

RKG:1

encl: ENCLOSURE 1
ENCLOSURE 2

[Handwritten signature]

ENCLOSURE 1

Dear Neil,

No sooner do I mail a letter to you, but some sequence sneaks out and demands that I start another letter.

1. MR 87e:11009 mentions a nice example of the Strong Law of Small Numbers, given by the sequence

1,1,2,3,5,8,13,20,34,53,88,143,236,387,...

[*Math. Mag.* 59 (1986)84-92.]

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2. (87-05-27) Allen J. Schwenk, How many rinds can a finite sequence of pairs have? in Y. Alavi et al, Graph Theory and its Applications to Algorithms and Computer Science, Wiley, 1985, 713-739 (esp.p.727), in connexion with Göbel's problem

(*Monthly*, 89 (1982)113-114) shows that you can peel

$(2^{2^m-1} - \text{deficit})$ rinds from an appropriate sequence of m pairs,

where the deficit, for $m = 1, 2, 3, \dots$ is

1, 2, 8, 18, 55, 138, 470, 1164, 4055, 10140, 35609, 89782, 316513, 803040, ...

This is roughly e^{m-1} , but rather less for larger m .

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