Equations (5) can be implemented by appropriate circuitry, as for (4), where R and S represent the reset and set inputs of an R-S flip-flop [8, p. 83] and C_j could be interpreted as a timing signal which signifies completion of changes (if any) in stage j. As before, a similar rule for the maximal form can be developed.

"When thou art weary, on the mountains stay,
And when exhausted, drink the rivers' driven spray." [1]

REFERENCES

1. Kalidasa, "The Cloud Messenger," *Shakuntala and Other Writings,* E. P. Dutton and Co., New York, 1959, p. 187.
2. V. E. Hoggatt, Jr., *Fibonacci and Lucas Numbers,* Houghton Mifflin Co., Boston, 1969.
3. J. L. Brown, Jr., "Note on Complete Sequences of Integers," *Amer. Math. Monthly,* Vol. 68, No. 6 (June-July, 1961), pp. 557–560.
4. D. E. Daykin, "Representation of Natural Numbers as Sums of Generalized Fibonacci Numbers," *Journal of the London Math. Society,* Vol. 35 (1960), pp. 143–160.
5. J. L. Brown, Jr., "Zeckendorf's Theorem and Some Applications," *The Fibonacci Quarterly,* Vol. 2, No. 3 (Oct. 1964), pp. 163–168.
6. J. L. Brown, Jr., "A New Characteristic of the Fibonacci Numbers," *The Fibonacci Quarterly,* Vol. 3, No. 1 (Feb. 1965), pp. 1–8.
7. J. Galambos, "A Constructive Uniqueness Theorem on Representing Integers," *The Fibonacci Quarterly,* Vol. 10, No. 6 (Dec. 1972), pp. 569–598.
8. T. Kohonen, *Digital Circuits and Devices,"* Prentice-Hall, Inc., Englewood Cliffs, 1972.

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LETTER TO THE EDITOR

December 2, 1975

Dear Dr. Hoggatt:

I showed Dr. James W. Follin, Jr., of the Applied Physics Laboratory the example in D. Shanks, "Incredible Identities," *The Fibonacci Quarterly,* Vol. 12, No. 3 (Oct. 1974), pp. 271, 180. I think his generalization would be of interest.

Set $K^2 = m + n$. Then one has the identity

$$\sqrt{m} + \sqrt{2(K+\sqrt{m})} = \sqrt{K+\sqrt{n}} + \sqrt{K+m-\sqrt{n}+2\sqrt{m(K-\sqrt{n})}}\ ,$$

which can be checked by squaring twice, while performing all simplifications, including substitution and observing a perfect square.

William G. Spohn, Jr.