Solution by David Zeitlin, Minneapolis, Minnesota

Using mathematical induction, one may show that

$$F_{4n} = \sum_{k=1}^{n} L_{4k-2}, \quad n = 1, 2, \dots$$

If we apply the well-known arithmetic-geometric inequality to the unequal positive numbers L_2 , L_6 , L_{10} , ..., L_{4n-2} , we obtain for n = 2, 3, ...,

$$\frac{\sum_{k=1}^{n} L_{4k-2}}{\sum_{n=1}^{k-1} \frac{k=1}{n}} = \sqrt[n]{L_2 L_6 L_{10} \cdots L_{4n-2}}$$

which is the desired inequality.

Also solved by Douglas Lind and the proposer.

ACKNOWLEDGMENT

It is a pleasure to acknowledge the assistance furnished by Prof. Verner E. Hoggatt, Jr. concerning the essential idea of "Maximal Sets" and the line of proof suggested in the latter part of my article "On the Representations of Integers as Distinct Sums of Fibonacci Numbers." The article appeared in Feb., 1965. H. H. Ferns

CORRECTION Volume 3, Number 1

.

Page 26, line 10 from bottom of page

$$V_{7,3} + V_{7,4} + V_{7,5} = F_8 - F_7 = F_6 = 8$$

Page 27, lines 4 and 5

$$F_2 + F_4 + F_6 + \dots + F_n = F_{n+1} - 1$$
 (n even)
 $F_3 + F_5 + F_7 + \dots + F_n = F_{n+1} - 1$ (n odd)

ACKNOWLEDGMENT

Both the papers "Fibonacci Residues" and "On a General Fibonacci Identity," by John H. Halton, were supported in part by NSF grant GP2163.

CORRECTION Volume 3, Number 1

Page 40, Equation (81), the R. H. S. should have an additional term $-v^2 F_{v+2}$