with equality only when $A_i = A_j$ for all $1 \le i \le n$, $1 \le j \le n$. The application to the Fibonacci numbers F_n (with $F_{n+1} = F_n + F_{n-1}$ and $F_1 = 1$, $F_2 = 1$) is evident from the formula

$$\sum_{i=1}^{n} F_i = F_{n+2} - 1 \quad ,$$

so that we find

$$\sum_{i=1}^{n} \frac{1}{F_i} \ge \frac{n^2}{F_{n+2} - 1} \quad ,$$

with equality only for $n = 1, 2$.

Zeitlin and Desmond used the Arithmetic-Harmonic mean inequality. Brown used the Schwarz inequality.

Further results are:

$$\sum_{k=1}^{n} \frac{1}{H_k} \ge \frac{n^2}{H_{n+2} - H_2} \quad , \quad n \ge 1 \qquad \text{(Zeitlin)}$$

$$\sum_{k=1}^{n} \frac{1}{F_k^2} \ge \frac{n^2}{F_n F_{n+1}} \quad , \quad n \ge 1 \qquad \text{(Hoggatt)}$$

Also solved by D. Zeitlin, John L. Brown, Jr., M.N.S. Swamy, D. Lind, C.B.A. Peck, and John Wessner.

SOME BELATED SOLVERS' CREDITS

H-37 Dermott A. Breault

H-48 John L. Brown, Jr., and Charles R. Wall

H-52 C.B.A. Peck, F. D. Parker, and D. Lind

H-57 John L. Brown, Jr., Charles R. Wall, Marjorie Bicknell, F.D. Parker, and M.N.S. Swamy

H-58 David Klarner

H-74 John L. Brown, Jr.

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REFERENCE

1. S. L. Basin and V. E. Hoggatt, Jr., "A Primer on the Fibonacci Sequence — Part II," Fibonacci Quarterly, Vol. 1 (1963), No. 2, 61-68.

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