$$= \frac{k_{p(1)} - k_1}{(k_1 + k_{p(1)+1} + 1)(k_{p(1)} + k_{p(1)+1} + 1)} > 0 ,$$

since $k_{p(1)} > k_1$ whenever $p(1) \neq 1$.

Hence $F_n(k_{q(1)}, \ldots, k_{q(n)}) > F_n(k_1, \ldots, k_n)$.

Case 3 ($k_1 \geqslant k_n$ and $p(n) \neq n$ with $p(1) = 1$):
Let

$$q(i) = \begin{cases} & \text{for } i < p(n) \\ p(n) + n - i & \text{for } i \geqslant p(n) \end{cases}$$

i.e. reverse the last $n - p(n) + 1$ k's. We find that:

$$F_n(k_{q(1)}, \ldots, k_{q(n)}) - F_n(k_1, \ldots, k_n)$$

$$= \left(\frac{1}{k_{q(p(n)-1)} + k_{q(p(n))} + 1} + \frac{1}{k_{q(n)} + 1}\right) - \left(\frac{1}{k_{p(n)-1} + k_{p(n)} + 1} + \frac{1}{k_n + 1}\right)$$

$$= \frac{k_{p(n)} - k_n}{(k_{p(n)-1} + k_{p(n)} + 1)(k_{p(n)-1} + k_n + 1)} + \frac{k_n - k_{p(n)}}{(k_{p(n)} + 1)(k_n + 1)} > 0,$$

since the first denominator is larger.

Case 4 ($k_1 \geqslant k_n$ and $p(1) = 1$ and $p(n) = n$):
There must exist j and m such that $j < m$, $k_{j-1} > k_{m+1}$ and $k_j < k_m$. Let:

$$q(i) = \begin{cases} i & \text{for } i < j \text{ or } i > m \\ j + m - i & \text{for } j \leqslant i \leqslant m \end{cases}$$

i.e. reverse the order of k_j through k_m. After eliminating common terms, we find:

$$F_n(k_{q(1)}, \ldots, k_{q(n)}) - F_n(k_1, \ldots, k_n)$$

$$= \left(\frac{1}{k_{q(j-1)} + k_{q(j)} + 1} + \frac{1}{k_{q(m)} + k_{q(m+1)} + 1}\right) - \left(\frac{1}{k_{j-1} + k_j + 1} + \frac{1}{k_m + k_{m+1} + 1}\right)$$

$$= \frac{k_j - k_m}{(k_{j-1} + k_m + 1)(k_{j-1} + k_j + 1)} + \frac{k_m - k_j}{(k_j + k_{m+1} + 1)(k_m + k_{m+1} + 1)} > 0$$

since the first denominator is the larger Q.E.D.

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BCS award scheme

The British Computer Society Award was first instituted in 1973. Its aim was to mark the achievement of technical excellence in the development of computing.

Seen originally, perhaps, as machine oriented it was decided in 1975 to divide the award into two categories, one for technical achievement and one for an application which provided significant benefit to society generally.

Submissions in the last two years have included some of great ingenuity, even brilliance, but in the way the equipment and systems were used rather than in their development.

The BCS Council, meeting on 25 April 1979, therefore decided to add a third category to the Award Scheme as announced at the Annual Award Lectures at the Royal Society later that day:

> The Category 3 award is concerned with any application of computing that provides a novel and cost effective approach to successfully performing its specified task. It is anticipated that the Category 3 award will relate primarily to industrial and commercial projects, although some aspects of computer work within central government, local authorities and public bodies may be equally appropriate. Projects nominated for the Category 3 award will often be based upon well established computer technology and techniques which have been applied in an imaginative and innovatory manner, but projects involving significant technical developments will not be excluded.

Further details of the award scheme and nomination forms are available from: The Secretary-General, BCS, 13 Mansfield Street, London W1M OBP.

Conference round up

Information 79 is to be held in Bled, Yugoslavia from 1–6 October 1979. This comprises the 14th Yugoslav International Symposium on Information Processing, seminars in selected computer science topics and an exhibition of computer equipment and literature organised by the Slovene Computer Society in co-operation with Josef Stefan Institute and the Faculty of Electrical Engineering, University of Ljubljana.

Speakers have been invited to present their papers in English to broaden the interest of the symposium. Experts from outside Yugoslavia will present surveys of the latest achievements in selected fields of information science and technology.

For further details contact Informatica 79,
Josef Stefan Institute
61001 Ljubljana
pp 199
Yugoslavia

The 1980 International Symposium on Computer Architecture is the seventh in an annual series sponsored by the Association for Computing Machinery (ACM) and the IEEE Computer Society. It is the first one to be held outside the USA. The site of the symposium is La Baule, a beautiful beach resort on the southern coast of Brittany, 40 miles west of Nantes and its international airport.

Anyone wishing to attend should contact Jacques Lenfant, IRISA, Université de Rennes, Campus de Beaulieu, 35042 Rennes Cedex, France (tel: (99) 36 48 15; telex: UNIRISA 950473F).