Book review

APL offers applications for life, nonlife insurance

by George Y. Cherlin

APL The Language and Its Actuarial Applications by D. Stiers, M. J. Goovaerts, and J. De Kerf. Published by North-Holland, 1986, viii + 223 pages.

From the preface:

In his contribution "Description and Comparison of Various Programming Languages and Suitability for Non-life Actuaries" to the XVI ASTIN Colloquium in Liege, Belgium, September 1982, J. Andre Bardola examined the use of several programming languages by nonlife actuaries. In the Netherlands a few years ago G. Leuven studied the use of the different computer languages by members of the Dutch Actuarial Society. Both authors, Leuven and Bardola, concluded that APL is a very attractive programming language for actuaries.

...We hope this book shows that APL is an extremely powerful language for dealing with actuarial problems in life and nonlife not only for performing mathematical calculations but also for the administrative tasks connected with some insurance problems.

This short book has a very brief introduction to APL and some applications to nonlife insurance and general mathematics. The applications are to loss reserving methods, credibility theory, probability functions, elements of numerical analysis, and forecasting.

The applications are supported by a diskette with work spaces saved under IBM's APL/PC Version 1.0. Also available is a version with IBM's APL/ PC Version 2.0. The work space names are IBNR, CREDI, PROBABIL, NUMANAL, and FORECAST. The book has an extensive listing of programs from the diskette.

For North American readers, the book's language may be awkward, but the actuarial work is complete. For a step-by-step introduction to APL, I recommend the following:

1. *APL: An Interactive Approach*, 3rd edition, Gilman and Rose. Wiley 1983.
2. The manuals that come with Scientific Time Sharing Corporation's and I. P. Sharp's APL for the PC.
3. For practice and learning on a PC, a disk and manual are available for $9 from I-APL Ltd., 6611 Linville Drive, Weed, California 96094. Once obtained, this may be freely copied for educational use. It is not available for commercial use.
4. Jamieson, D. R. W., "ACT – An Actuarial Programming Language," January 1972, *The Actuary*.

The program listings make it possible to study the book without access to IBM's APL/PC. The applications are serious and significant.

Since the development is brief, someone not familiar with the subject matter may wish to supplement it with other textbooks or some of the material on the Casualty Actuarial Society syllabus.

The book is an excellent review for anyone familiar with its subject matter, a good introduction to APL for anyone already familiar with actuarial topics, and a good introduction to the mathematical and nonlife actuarial topics for anyone already familiar with APL.

Typographical errors noted:
p. 43 Line 7: Start off with "*B."
p. 46 Line 34: The values of lambda should be .1, .2, .3, .4 and .5.
p. 64 Line 18: The line should end with "A/B, then."
p. 76 Line 12: Word 6 should be "its."

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production standpoint in the same manner as the *Record* volumes.

We've also introduced a procedure to handle situations where no established approach seems feasible or where exceptions to normal routines are considered necessary, such as where timeliness is crucial. The procedure enables a Society committee or an individual to submit a request for a special publication arrangement. The procedure was used for the first time a year ago to distribute two papers containing useful information on reserving for the AIDS risk in time for use in upcoming year-end valuation work.

• **Annual Report.** We've just started to think about publishing a brief annual report, of the type prepared by companies and other organizations. Designed to facilitate leadership-to-membership communication, the report could include a summary of major Society activities of the past year, a look ahead to the coming year, and a President's column. The project was discussed briefly at the last Executive Committee meeting and, if the effort is approved, we would hope to publish the first report late this year.

The statement of publications objectives and general procedures approved by the Board a year ago indicates that the Society's publications services "should enable publication of a broad range of material of direct or indirect interest to Society members, ranging from scholarly papers and research works to quick news items." We're firmly committed to this objective as a means of meeting the needs of a diverse Society membership. Your reactions and comments, as expressed primarily in membership surveys, have been very helpful to us. We all appreciate your efforts in responding to these surveys. We also appreciate and invite any other comments, suggestions and criticisms. We need all the good ideas we can get. Simply drop me a line or call me. We'll be glad to hear from you.

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