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Book reviews

Dynamic Programming with Management Applications, by N. A. J. Hastings, 1973; 173 pages (Butterworths, £4.00)

From the flyleaf, 'this book deals systematically with the formulation of dynamic programming problems, an area which hitherto has presented major difficulties for the beginner'. As a teacher, I heartily agree with the second part of this statement; as reviewer I also agree with the first. The author has found a unique way of specifying dynamic programs which should clarify the formulation process for most readers and illustrates it with a large number of worked examples.

The book is very much one of two parts. Chapters 1 and 2 which serve to introduce deterministic applications of dynamic programming painstakingly guide the reader through the required concepts and technology. Chapters 3 to 5 deal with probabilistic systems with Markovian properties and are much more demanding. Exercises (with answers) are provided with Chapters 1 to 4. Throughout, attention is confined to problems with discrete state variables, a reasonable restriction in view of the emphasis of the book. There are a number of misprints which are irritating, rather than misleading. However, the last sentence on page 164 should read 'Add $v(i)$ to each side'.

On the whole, the book is deserving of a wide audience particularly because of the first two chapters which I shall certainly recommend to my students. Potential readers of the later chapters would, however, benefit from being more familiar with Mathematics than either the author or the publisher would have us believe. The 'good school leaver' would, I am sure, not perceive the meaning of 'The policy space A is the cartesian product of all K_i ', nor should he have to as it would be relatively simple to express the required meaning in non-technical terms.

L. G. PROLL (Leeds)

Use of files, by D. R. Judd, 1973; 146 pages. (McDonald/American Elsevier Computer Monographs, £2.00)

The 'Use of files' is not a good name for this book yet it is hard to suggest a better title. A wide range of topics, in the main related to commercial Data Processing, is covered at an elementary level. The common denominator of all the topics is a connection with file processing—hence the title of the book.

The book is of an introductory nature. The material is generally well presented from a practical viewpoint. The many examples given and the fluent style of the author make for easy and usually interesting reading. Topics discussed include amongst others physical storage media, sorting, languages and packages, file security, and the testing of file processing programs. Some of the figures quoted for the capacities of physical storage devices are a little out of date however, this is inevitable since technology in this area advances rapidly. A brief description, on page 65, of the method of calculating the parity bit for recording data on paper tapes appeared to me to be incorrect, but is at the least misleading.

I was interested to see that early in the book, in Chapter 2, the BNF notation was introduced and used by the author to develop a neat description of the structure of sequential files. I hoped that he would go on to demonstrate the important relationship between the structure of a file and a program which processes that file. However he did not do so.

In brief, this is a good general introduction to the parts of commercial Data Processing related to file processing, suitable for a new entrant into DP. In spite of the basic level of this book, I think that most practising programmers or systems analysts could glean some useful snippets of information by browsing through it. A good list for further reading is given at the end of the book.

D. F. DIVES (London)