

BOOK REVIEWS

An introduction to BASIC by M. R. Eagle. G. Bell & Sons Ltd, London, 1976, 136 pp, US\$3.75.

The choice of BASIC in this book to introduce computer programming to the readers is a happy one for among the high level languages BASIC is one which can be learnt and applied to most computing problems with ease and speed.

In the first chapter the author briefly discusses what a computer can do, the components of the hardware, rules of a computer language, errors in a programme, interactive use of a computer and the idea of time-sharing.

Chapters Two to Seven describe what BASIC is, the way it works and the planning and execution of a programme. Chapter Two begins with the statements FOR, PRINT, NEXT and END and then elaborates on the FOR-NEXT loops and nested loops together with STEP to cover steps other than positive integrals. Statements such as INPUT, READ, DATA, LET come later in the chapter. As the latter set of statements are easier to master than the FOR-NEXT loops and nested loops it would be better if they appear earlier.

Chapter Three introduces the Flow Charts and the way to translate a Flow Chart into BASIC. The attempt to associate certain statements in BASIC with particular symbolic boxes in the Flow Chart is extremely helpful for a beginner. For example, the statement LET is associated with the instruction box and the conditional statement IF-THEN with the decision box. In the chapters which follow the author brings in numerous other statements. He takes great pains, and with unqualified success, to explain with clarity the function and purpose of each statement, especially those statements which are relatively more difficult to master; for example, the function RND (X) to generate random numbers, the statements used to define functions other than those already included in the compiler, the statement DIM for the handling of arrays and the versatile use of the statement PRINT.

'The Appendices' is included at the end of the book to help the reader when he sits down for the first time at the on-line terminal. It explains the use of the control commands (those commands without line numbers) to get the computer ready to accept a program, to LIST it, to RUN it and to put it on store. It discusses the sources of error and ways to deal with them or avoid them, the error messages and run-time errors and ways to deal with them. It ends with a useful summary of the main features of BASIC.

This book is particularly useful to the uninitiated.

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Statistics and probability: an introductory course by The Schools Statistics Panel. W. Foulsham & Co. Ltd., London, 1969, 305 pp.

This 305-page book was prepared and written by The Schools Statistics Panel which comprised one representative each from nine different institutions. It aims to be an introductory text for pupils taking Statistics in the 'O' Level Certificate of Education awarded by different examination boards in Britain.

The book consists of 11 chapters, viz. Presentation of Data, Population and Sample, Frequency Distributions, Averages or Measures of Central Location, Ogives and Frequency Curves, Dispersion, Probability, The Binomial Distribution, Normal Distribution, Elementary Sampling and Significance Testing.

Most of these topics are listed in the statistics option of the local GCE 'O' Level **Additional Mathematics** syllabus or the GCE 'A' Level Mathematics O syllabus. In fact,

the first ten chapters are relevant and suitable. Those topics in the above syllabus not covered by the book are: moving averages, index numbers, scatter diagrams, correlation, rank correlation coefficient.

There are two sections on revision examples. The section on Revision Examples I appears half-way through the book and immediately after Chapter 6, and that on Revision examples II appears at the end of the book.

In Section 6.7 of Chapter 6 on Computation of Standard Deviation using Machines, a desk calculator is used as an illustration. As the electronic calculator is getting very popular, it could be used instead.

As the book was written in Britain, the monetary units are understandably the British pounds, and names such as Westshire County, County Council, BBC, ITV, etc. appear in contrast to those used in our local context. However, these are kept to the minimum and do not in any way affect the main ideas presented.

As claimed by the authors, the subject matter is presented "in the simplest possible way" by "an experimental approach to various topics". The sampling bottle and the triangular spinner are among the apparatus suggested. To encourage pupils "to verify results and formulae by performing the experiments themselves", the authors state clearly the procedure of experiments to guide the pupils.

The diagrams in the book are well drawn. The examples and exercises given are numerous and sufficient for most pupils.

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Understanding Mathematics by Wong Sek Onn. F E P International Ltd., Jurong, Singapore, 1976, 1A 92 pp., 1B 108 pp., S\$ 1.90; 2A 100 pp., 2B 100 pp., S\$ 2.10; 3A 92 pp., 3B 92pp., S\$ 2.20; 4A 108 pp., 4B 92pp., S\$ 2.30; 5A 108 pp., 5B 108 pp., S\$ 2.40; 6A 92pp., 6B 108 pp., S\$ 2.50.

Understanding Mathematics by Wong Sek Onn is a series of six books, each divided into parts A and B designed for use in the Primary School. Books 1A and B have suitable subject matter for the beginner, teach simple mathematical concepts and instil awareness of shapes and sizes. However, in parts the author tends to confuse very young children by saying that an egg has the same shape as a rugby ball. Since this exercise is based on a child's observation and recognition, this comparison should not be made. Here also the author expects the child to colour the faces of the cuboid blue. By doing so, the child may colour the whole object blue and yet not realise the faces of the object. Perhaps colouring each face with a different colour would be better.

The books, however, have a good follow-up, and valid operations of addition and subtraction, multiplication and division are taught. Books 1A and B deal with smaller numbers from one to twenty, and Books 2A and B with numbers from one to a hundred. Building up multiplication tables for numbers seven to nine in Book 3A is useful. Such an approach would appeal to children. Problems are also given. They are stimulating and realistic and deal with the child's everyday environment. They are short and children are helped along with statements. Children are therefore encouraged to read. While the author has so much to give generally, the word problems in Books Three to Six are crammed into two pages. Some pupils may be put off by so much reading material.

The approach to MONEY is well dealt with and realistic to the student. Here photographs of coins and notes of different denominations are shown and these will convey a clear picture to the child.

The Chapter on straight lines and angles is well done and will appeal to children. The author very cleverly deals with the topics and introduces puzzles which immediately arouse the pupil's interest.

Problems in the chapter on squares and square roots in Book 5A tend to be too difficult for Primary 5 students.

In the chapter on scale drawing, fascinating designs are brought in to interest children.

On the whole the presentation and material used are suitable. The language used is simple and at the level of the age group. The subject matter is good and more than sufficient. The concepts in each book are built up systematically. There are many colourful illustrations that are appealing and stimulating. The problems are realistic and, generally the series is able to maintain a good sequence of ideas. Each book in the series has an attractive cover. This series will be useful as texts in the Primary School.

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