

nate, but otherwise the authors are reasonably successful at achieving this goal. The writing style is informal, with enough interesting and humorous asides to make the book quite readable. Chemists who wish only a general overview of super-computers may find this book to be useful.

LABORATORY LOTUS

A Complete Guide to Instrument Interfacing

by Louis M. Mezei

Prentice Hall, Englewood Cliffs, NJ
317 pages, hardbound \$36.00,
1989

Reviewed by Harry E. Pence

Lotus 1-2-3 ubiquitous business spreadsheet, is already widely used in chemistry laboratories to organize large data sets and to do simple, repetitive calculations. Mezei's book describes how this software can not only do calculations and make graphs but also collect data from and control laboratory instrumentation.

Much of the book is devoted to explaining how to use either

Lotus 1-2-3 or Symphony to interface instruments having RS-232 communications. The presentation is extremely systematic and clear. The author provides brief summaries at the beginning and end of most chapters and also includes a running outline to make the discussion clearer. Sample programs are developed one section at a time to make these examples easier to understand. This modular approach also helps to simplify the explanation and minimize the chances for error.

The instruments chosen to serve as examples include the ACROSYSTEMS ACRO-900 interface, the Perkin-Elmer LS-2B Filter Fluorimeter, the Mettler AE163 analytical balance with optional data interface, and the Bio-Tek El-309 Microplate Reader, but for readers who don't have access to these specific instruments, the author

explains how these lessons can be applied more generally to other instrumentation. The discussion is not limited to data collection and treatment, but also covers how Lotus can set up the instrument, take the sample, and accumulate the data.

The presentation covers both RS-232 as well as IEEE-488 communications. For older instruments that lack a modern communications port, instructions are provided on how to access the data through a chart recorder output, an analog voltage output, or a digital display. Although considerations of cost and convenience cause the author to express a preference for the basic spreadsheet programs, he also discusses how to use Lotus Measure[®]R for instrument interfacing.

The final chapter includes a general summary and some excellent general advice about developing a communications program for a laboratory instrument. This section offers some especially valuable tips on programming and troubleshooting. Appendices are provided that cover RS-232 cables and pinout specifications and also review the most useful Lotus functions and commands.

Among the profusion of books on Lotus delightful to find one that is specifically aimed at chemists. It is even more pleasant to be able to report that the discussion is so systematic and lucid. This book should be both an excellent resource for those who are already dedicated Lotus users as well as an effective argument to convince new users that this software can play a valuable role in their laboratories.

PERSONAL COMPUTERS FOR SCIENTISTS

by Glenn I. Ouchi

American Chemical Society, Washington, DC, 1987
300 pages, paperbound, \$22.95,
hardbound \$34.95

Reviewed by Harry E. Pence

Glenn Ouchi is a well-known advocate of laboratory uses of microcomputers, who has written articles for many widely-read computer journals, taught ACS short courses, and edited a newsletter on computing in the chemistry laboratory. He is well qualified to fulfill the promise that the book will "help you select and use a personal computer (PC) to solve problems in your work."

The initial section of the book covers the fundamental hardware and operating systems characteristic of microcomputers. The author does not presume very much prior computing knowledge on the part of the reader. The clear and concise explanations are accompanied by many excellent illustrations and line drawings. First-time computer users should find this book to be both attractive and readable.

The core of the book is the section on applications software. Ouchi emphasizes that when choosing a computer the essential consideration should be to identify the critical problems which are to be solved and then to select a machine that will run the software that is best able to accomplish those jobs. Advanced hardware capabilities, such as high performance or extended memory, are worthless unless the software needed for the tasks at hand will run on the computer. As many users have sadly learned, purchasing a computer based on the assurance that the required software will be available "real soon now" will usually lead only to frustration and wasted time.

The author discusses the "big three" types of software: word processors, spreadsheets, and data bases, but also includes applications of major interest for scientists, such as graphics and statistics programs. Much of the software that he describes is widely used for business applications, but he provides good examples of how those commercial packages are equally applicable to scientific projects. The realistic, sample experiments are excellent for showing