heavily on saved internal variables, without even the benefit of an explicit SAVE declaration. Most routines use locally declared temporary storage, rather than input work arrays. (Notable exceptions are the routines in Chapter 8, which appear to have been taken largely from another source.) Further, the size of such arrays and the precision to which constants are given make it clear that the authors have in mind the solution of small problems on small machines. (However, the routines generally do not use double precision!) The authors would do well to read *Sources and Development of Mathematical Software*, Wayne R. Cowell, Ed., Prentice-Hall (Englewood Cliffs, NJ, 1984), and the references therein.

Despite comments to the contrary in the Preface, *NR* is not a textbook, for it contains no problems and very few examples. It is a reference book intended for the practicing s/e. In the Preface, the authors state: "Our purpose in this book is ... to open up a large number of computational black boxes to your scrutiny. We want to teach you to take apart these black boxes and to put them back together again, modifying to suit your specific needs." It is this aspect that makes this reviewer feel most uncomfortable. If one could be assured that the s/e would read all of the accompanying text, then in *most* cases he/she would be in a position to make intelligent use of these methods. Providing the software plus easy-to-modify example programs makes it easy to use them as "black boxes" (despite the authors' stated aversion to such) and/or transfer them to larger machines. However, *NR* contains virtually no information on how these methods will behave on large problems. *Caveat emptor*! Do not view *NR* as a bargain source of software.

There are a number of instances where one could take issue with the authors' choice of, or justification for methods. Unfortunately, however, there are also a number of instances of factual errors or misstatements. A list of them has been compiled by the reviewer and is available upon request.

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4[65–04].—WILLIAM T. VETTERLING, SAUL A. TEUKOLSKY, WILLIAM H. PRESS & BRIAN P. FLANNERY, *Numerical Recipes Example Book (FORTRAN)*, Cambridge Univ. Press, Cambridge, 1985, viii + 192 pp., $23\frac{1}{2}$ cm. Price $18.95. *Numerical Recipes Example Book (Pascal)*, Cambridge Univ. Press, Cambridge, 1985, viii + 236 pp., $23\frac{1}{2}$ cm. Price $18.95.

As the title implies, *Numerical Recipes Example Book* is a set of examples to illustrate the use of the subprograms described in *Numerical Recipes* (hereafter abbreviated *NR*). The chapters are numbered and titled exactly the same as *NR*. Each chapter begins with a summary of the routines described in the corresponding chapter of *NR*. This is followed by a sequence of examples, in the same order as the routines in *NR* that they exercise. The nth example in chapter m has the name DmRn. An index shows which *NR* routines are demonstrated by which

examples. There are two versions of the *Example Book*, one in Fortran and the other in Pascal. The text of the two appears to be identical, except that routine names are all capitals in the Fortran version and lower case in the Pascal version. The example programs listed in the Pascal version appear to be translations into Pascal of the Fortran examples.

As the title implies, the programs are intended more to serve as guides to usage than to be thorough test routines. It is a little annoying that in most cases in which comparison values are included in the program, they are merely printed for a visual check by the user. It would be better to have the *computer* do the comparison and print the difference or "ok". The book is also excessively repetitive. In those cases where essentially the same program is used to test several *NR* routines, each is still listed in complete detail.

The example programs are available on DOS diskettes for IBM PC and compatible computers at $19.95 each. It is this reviewer's opinion that the printed programs are worth very little without their machine-readable counterparts. Since the *Example Book* contains very little text besides the programs, the authors could have incorporated the text into the programs and saved the users $18.95!

We conclude by noting a few errors. In the text describing D3R12, the second derivative of the test function is $2x_1^2$, not $2x_1x_2$. (It is given correctly in the program itself.) The functions HEX2IN and IN2HEX, included in D7R13 to convert characters representing a hexidecimal number to/from its internal representation, are not quite as machine independent as the text claims. They assume that the characters '0' through '9' have internal representations that are consecutive integers; the same applies to 'A' through 'F'. The text before D12R1 is at least misleading. The program does not actually perform the four listed tests; it prints the results and expects the user to do a visual verification. The statement "if a data array is Fourier transformed twice in succession, the resulting array should be identical to the original" is false: the second transform must be the *inverse*, and one needs to include the factor $1/N$ that appears in (12.1.9) of *NR*, as in the program.

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5[65A05].—A. P. PRUDNIKOV, YU. A. BRYČKOV & O. I. MARIČEV, *Integrals and Series* (*Supplementary Chapters*) (in Russian), "Nauka", Moscow, 1986, 800 pp., 22 cm. Price 4 Rubles, 50 Kopecks.

Within the remarkably short period of five years, the authors have succeeded in the formidable task of preparing and presenting to the scientific community three volumes of integrals and series, each of about 800 pages. The volumes of integrals and series of elementary functions [1], reviewed in [2], and of integrals and series of special functions [3], reviewed in [4], have in the meantime been published in English [5], [6], and some errors or misprints have been corrected in [5]. The present table is the last volume of this collection. It consists of exactly 800 pages of formulas for