deep. Even to list these would go beyond the limits of this review, so only a few high points will be noted. Chapter 1, Introduction, has been augmented by material on orthogonal polynomials and extrapolation and speed-up. Chapter 2, Approximate Integration over a Finite Interval, has been augmented by a discussion of spline interpolation with applications to numerical integration, the Kronrod scheme, and a number of other methods developed recently. Chapter 3, Approximate Integration over Infinite Intervals, contains a wealth of new material on the Fourier transform, including the discrete Fourier transform and fast Fourier transform methods, and the Laplace transform and its numerical inversion. Chapter 4, Error Analysis, in addition to other new topics, contains a greatly expanded treatment of the applications of functional analysis to numerical integration. Chapter 5, Approximate Integration in Two or More Dimensions, has a new section on the state of the art in this extremely difficult field. Chapter 6, Automatic Integration, has been supplemented by a number of new results. As one might expect, a number of programs (about eight) have been added to Appendix 2, FORTRAN Programs, and Appendix 3, Bibliography of ALGOL, FORTRAN, and PL/I Procedures has been increased by about seventy-two items. Additions have been made to Appendix 4, Bibliography of Tables, and about six hundred and forty-nine additional entries have been made to Appendix 5, Bibliography of Books and Articles, showing the feverish activity in this field, as well as the scholarly diligence of the authors.

The previous version was an excellent example of mathematical typography at its best; the present book, if anything, is even easier to read. A random inspection finds an "l" missing from Zweifel's name on p. 180, but nothing serious in the way of misprints was noted.

A mere recitation of details does not do justice to this book. Each section and subsection gives a clear statement of the basic idea discussed, its theoretical foundation, proofs (if needed), examples, and references. It is a rare achievement to produce a book which is an inspiration to the student, useful to the occasional as well as the frequent practitioner, and invaluable to the theoretician as a resource; but that is what the authors have done.

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29 [3, 13].—William C. Maguire, *Rotation Matrices $d^j_{m'm}$ for Argument $\pi/2$ in Numerically Factored Form*, ms. of seventy computer pages deposited in the UMT file, May 1975.

This unpublished table gives the rotation matrices $d^j_{m'm}(\beta)$ for arguments $\pi/2$ for integer values j from 1 to 30 in the form $2^{-k}\Pi p_i\sqrt{\Pi p_l}$, p prime. The matrices are defined as in Edmonds [1]. An effort has been made to see that all integers are prime (except for powers indicated by ** powers), but the seventy-five largest integers, each greater than 100,000, have not been checked. A test calculation has been made and a third separate calculation [2] shows no differences to the latter's five available decimal places. The computations were performed at NASA/Goddard Space Flight Center on an IBM 360/91 with the main algorithms written in FORMAC and PL/I.

Author's Summary

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