N E W

PRENTICE-HALL SPEAKS COMPUTER LANGUAGE...

C. WILLIAM
GEAR
University
of
Illinois

NUMERICAL INITIAL VALUE PROBLEMS IN ORDINARY DIFFERENTIAL EQUATIONS

New—Discusses all classes of step by step methods suitable for the automatic numerical integration of general problems. Covers the derivation of methods, the theory of error and convergence, and the practical implementation on a computer. Includes theoretical and computational end-of-the-chapter problems, many numerical examples showing error behavior, numerical comparisons of different methods, and a large bibliography.

• July 1971, approx. 304 pp., \$12.95 (62660-6)

PHILIP ANSELDNE Michigan State University

COLLECTIVELY COMPACT OPERATOR APPROXIMATION THEORY

New—Provides an introduction to a currently active field of research, presenting a recently developed abstract operator approximation theory and various applications to numerical integration approximations of integral operators. The theory is based on a new concept, that of a collectively compact (completely continuous) operator. Both linear and nonlinear operators are treated. Valuable for courses and seminars at the graduate level.

August 1971, 128 pp., \$12.50 (14067-3)

GERALD SALTON Cornell University

THE SMART RETRIEVAL SYSTEM: Experiments in Automatic Document Processing

New—Deals with the design and application of fully automatic information retrieval systems. The design of the automatic SMART document retrieval system is described in the areas of systems evaluation, automatic language analysis, automatic document classification and search, user feedback procedures, adaptive document and query modification, and operational comparisons with conventional manually-based retrieval systems.

August 1971, 544 pp., \$15.00 (81452-5)

For further information:

PRENTICE-HALL, Box 903 Englewood Cliffs, N.J. 07632

HOMOMORPHISMS OF KNOT GROUPS

ON PINITE-GROUPS

ROBERT RILET

TABLES II AND III

Table 2. Presentations of the groups of the classical knots.

The top line for each knot means the following, in order:

- (a) ' the 2 digit neme of the knot.
- (b) the number, nog, of "independent" generators.
- (c) the total number of words in the presentation, mword, counting the independent generators, the dependent generators, the relators, and the longitude.
- (d) the torsion numbers of the quadratic form of K. The subsequent lines starting with x, e.g. x3, x4, ..., are the extremations for the dependent generators in terms of the preceeding generators. We store the word $x_a^B x_b^B x_c^V$... as a a b $B \in V$... in Informat. Thus $x_1^A x_2^A x_3^{-1}$ is coded 1 1 2 1 1-1.

Such longitude runs parallel to the orientation we have taken for the knot and commutes with \mathbf{x}_{i} .