

longer apply in the present circumstances. It is also worth recalling that there is a recurrence relation for the evaluation of a polynomial. But the detailed coding of such problems is of little interest save to the veriest beginner.

JOHN TODD

BRIEF MENTION

Programmgesteuerte digitale Rechengерäte (elektronische Rechenmaschinen). By H. Ruthishauser, A. Speiser, and E. Stiefel. (Mitteilungen aus dem Institut für angewandte Mathematik, no. 2.) Basel, Birkhäuser, 1951. 102 pp. 8.50 Swiss fr.

This booklet has been written after visits by the authors to various centers of high speed automatic digital computing in 1948–9. It is the first at all comprehensive report on its subject in the German language, and constitutes a very readable introduction. In addition to sections on history and bibliography there are careful discussions of the organization of machines, the representation of numbers, the handling of the elementary operations, possible address-systems, flow-diagrams, multiple-precision operations, checks. The concluding section discusses the physical realization of various components.

JOHN TODD

Colloque de topologie (Espaces fibrés). Centre Belge de Recherches Mathématiques. Liège, Georges Thone, and Paris, Masson, 1951. 129 pp. 1225 fr.

This booklet is a report of a colloquium on fibre spaces and fibre bundles held in Brussels in June, 1950. It contains the following papers: *Introduction à la théorie des espaces fibrés*, by H. Hopf; *Notions d'algèbre différentielle; applications aux groupes de Lie et aux variétés où opère un groupe de Lie*, by H. Cartan; *Les connexions infinitésimales dans un espace fibré différentiable*, by C. Ehresmann; *La transgression dans un groupe de Lie et dans un espace fibré principal*, by H. Cartan; *Sur un type d'algèbres différentielles en rapport avec la transgression*, by J. L. Koszul; *Espaces fibrés et homotopie*, by B. Eckmann; *Sur l'homologie des groupes de Lie, des espaces homogènes, et des espaces fibrés principaux*, by J. Leray; *Sur une formule de la théorie des espaces fibrés*, by H. Hopf; *Quelques relations entre l'homologie dans les espaces fibrés et les classes caractéristiques relative à un groupe de structure*, by G. Hirsch.

The first paper by Hopf is of an expository nature; it furnishes an