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Machines, Languages, and Complexity

5th International Meeting of Young Computer Scientists
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Selected Contributions

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Foreword

The International Meetings of Young Computer Scientists are organized biannually by the Association of Slovak Mathematicians and Physicists in cooperation with the Institute of Computer Science of the Comenius University, Bratislava, and the Computer and Automation Institute of the Hungarian Academy of Sciences, Budapest. The aim of the meetings is threefold: (1) to inform on new and actual trends, results, techniques, and problems in theoretical computer science and related fields by a tutorial and by a relatively large number of invited lectures, (2) to present and to discuss the results of the participants themselves, and (3) to create an opportunity for establishing first professional relations among the participants.

This volume contains the written versions of selected contributions from the scientific programme of the **Fifth International Meeting of Young Computer Scientists** held at Smolenice Castle (Czechoslovakia), November 14-18, 1988. We include the text of the IMYCS tutorial, the texts of all invited lectures as well as some of the communications presented during the meeting's sessions and informal evening sessions.

The volume is divided into five chapters approaching from different perspectives the three crucial notions of the contemporary theoretical computer science -- **machines**, **languages**, and **complexity**.

The first chapter contains the contributions on the theory of formal languages. The contributions are by F. Hinz, G. Jirásková, K.-J. Lange, M. Latteux, and B. Reichel.

The papers dealing with abstract machines are included in the second chapter. These are the contributions by Z. Ésik, K. Inoue, A. Ito, I. Takanami, and A. Slobodová.

The contributions in the third chapter are covered by the common label of algorithmics. They are written by D. Cortolezzis, C. Gaibisso, M. Křivánek, M. Loebl, J. Nešetřil, K. Unger, and D. Wood.

The contributions by F. van Harmelen and K. P. Jantke dealing with important theoretical problems of artificial intelligence form the fourth chapter.

The chapter devoted to cryptography closes the volume. It contains the communication by J. Kari and the IMYCS'88 tutorial by A. Salomaa.

We are indebted to all contributors for their cooperation. We should also like to express our gratitude to the members of the IMYCS'88 programme committee, namely to E. Csuhaj-Varjú, S. K. Dulin, J. Karhumäki, A. Kelemenová, J. Sakarovitch, and M. Szijártó for their valuable work. We highly appreciate the support of the Mathematical Institute of the Slovak Academy of Sciences, and last but not least the willingness of Springer-Verlag to publish this selection.

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