Editors' Introduction to Special Section on Discrete Algorithms and Complexity

HIROSHI IMAI*, KAZUO IWAMA**, YAHIKO KAMBAYASHI*†
and TAKAO NISHIZEKI††

The *International Workshop on Discrete Algorithms and Complexity* was held in Fukuoka, Japan, from the 21st to the 23rd of November, 1989. The workshop was organized jointly by the Technical Group on Computation (COMP), the Institute of Electronics, Information and Communication Engineers of Japan (IEICE), the Special Interest Group on Algorithms (SIGAL), the Information Processing Society of Japan (IPSJ), and the IPSJ Kyushu Branch. It was also supported by the Telecommunication Advancement Foundation. This workshop was the first attempt to make the regular monthly meetings of COMP and SIGAL widely accessible to colleagues outside the country; calls for papers were sent to many foreign institutions, especially those in Pacific countries. The result was successful: 24 papers out of a total of 37 were submitted from such countries as Taiwan, the USA, Singapore, Hong Kong, and Canada.

This special issue of the *Journal of Information Processing* contains a selection of the papers presented at the workshop. Nine papers were selected as being representative of the diversity of the research fields covered by the workshop (and also of the diversity of the participants' countries).

Those papers are divided into two groups: four invited survey papers and five contributed research ones. The former includes surveys on a well established methodology for drawing directed graphs in an understandable and aesthetically pleasing manner, on various methods of representing user hierarchies in computer systems, on the subgraph problems in several complexity classes, and on the average performance of various algorithms for random satisfiability problems. The five contributed papers are concerned with finding a rectilinear shortest path among weighted obstacles, computing longest common subsequences of small alphabet size, the dynamic shortest path problem (when additional objects are inserted in real time), alternating one-way multi-head finite automata, and determining whether one polygon can be translated to fit inside another polygon.

We wish to thank the authors, the referees and the Editorial Board of the *Journal of Information Processing* for their cooperation.

---

*Department of Information Science, Faculty of Science, University of Tokyo.
**Department of Information Science and Communication Engineering, Kyushu University.
*†Faculty of Engineering, Kyoto University.
††Department of Information Engineering, Faculty of Engineering, Tohoku University.