



Fundamentals of Automata Theory and Compiler Construction, 1/e

Narendra Kumar, Alok Kumar, Er. Mayank Kumar Jain & Santosh Kumar Sharma

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About the Book

This book divided in eleven chapters, in the first chapter describes basics of a compiler, its definition and its types. It also includes the need of a compiler. The second chapter deals with phases of compiler, frontend and back end of compiler, single pass and multiphase compiler; Chapter three covers role of logical analyzer, description of tokens, automata, the fourth chapter presents syntax analyzer, grammar, LMD, RMD, parsing techniques. Fifth chapter gives syntax directed translation, syntax tree, attributes such as synthesis and inherited. Chapter six deals with type checking, its definition, dynamic type checking and equivalence of it, function overloading and parameter passing. Chapter seven covers run time environment storage allocation techniques, symbol table. Chapter eight presents intermediate code generators, techniques of ICG, conversion. Chapter nine deals with code generation, basic blocks, flow graph, peephole optimization while chapter ten is on code optimization, that contains optimization of basic blocks, reducible flow graph, data flow analysis and global analysis. Chapter eleven one-pass compiler, compiler, its structure, STD rules and passing are described.

Salient Features

Introduction of every topic in very fundamental way.
 Complete coverage of the topic in the very lucid manner.
 Sufficient number of examples to illustrate the concepts broadly.
 Examples and solutions for clarifying the compiler design concepts.
 Description of symbols used to define the concepts.
 Multiple choice questions for higher competitive examinations.

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About the Author

Narendra Kumar :- [M.Sc.;M.Phil.:(Gold Medalist), Ph.D.(Mathematics), M. Tech. (CSE), Ph.D.(CSE)]working as a Professor and HOD at NIMS University Rajasthan, Jaipur, India. In his long academic, career he worked as professor, director, dean in various private universities (The ICFAI University, Jaipur; Poornima University, Jaipur; Shobhit University, Meerut; and Dr. Bhimrao Ambedkar University, Agra) and AICTE approved institutes (SKTC Jaipur, GIT Jaipur, SDIT Dausa, MSIT Rohtak). He has published more than seventy research papers and more than two dozen

books in Computer Science and Engineering and Mathematics, a dozen patents published, talks as invited speaker, keynote speaker, chairing the session. He has awarded as best teacher. He has organized many international conference including in Turkey and Bahrain. He has organized Faculty development program, and has been nominated as Freelance international expert of the scientific and technical organization TEADMUS, Talinn Estonia. (2017). He is an active member of IAENG, International Association of Engineers, Hong Kong, Indian Society of Meteorology, India and founder director of SERF Informatics.

Alok Kumar :- is associated with Mekelle University (A Govt. University) in Ethiopia (Africa) as an Associate Professor He was previously associated with Amity University, Noida (India). He is a graduate from IHM Kolkata & PhD from Jiwaji University, Gwalior (MP), India. He has 21 years' experience in hotel industry, teaching, research & training. He has published 36 research papers in journals/edited books and completed 2 UGC Projects. He has been founder Associate Editor of "Amity Research Journal of Tourism, Aviation and Hospitality (ARJTAH)"& Nominated for Editorial /Review board of *Tourism and Travelling* of Kozmenko Science Publishing, Poland and *International Tourism and Hospitality Journal (ITJH)* of RPA Journals, London. He has successfully led the hospitality department for prestigious international accreditation like NACC, WASC & IACBE.

Er. Mayank Kumar Jain :- is Assistant Professor in Engineering College of Jaipur and persuing PhD from Malviya National Institute of Technology, Jaipur, Rajasthan since 2018. He has 9 years of teaching experience. His Master of Technology and Bachelor of Engineering in Computer Science and Engineering was completed from Bhopal, Madhaya Pradesh, first with honours.

Santosh Kumar Sharma :- is Assistant Professor in the department of Computer Science at Birla Institute of Technology, Mesra (BIT, Mesra), Jaipur Campus. He did BE (Computer Technology) from Nagpur University, M.Tech (IT) from Rajasthan Technical University and MBA (Systems) from Sikkim Manipal University. Dr. Sharma teaches graduate, postgraduate and professional courses particularly Software Testing and Software Engineering. He has teaching experience of more than 15 years including 2 years in software industry.