1. Record Nr. UNINA9910299890003321

Autore	Elahi Ata
Titolo	Computer Systems [[electronic resource]] : Digital Design, Fundamentals of Computer Architecture and Assembly Language / / by Ata Elahi
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-66775-0
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (XV, 261 p. 269 illus., 115 illus. in color.)
Disciplina	621.39
Soggetti	Electrical engineering Electronic circuits Computer communication systems Microprocessors Coding theory Information theory Communications Engineering, Networks Circuits and Systems Computer Communication Networks Processor Architectures Coding and Information Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Information Representation in Computer -- Boolean Algebra and Logic Gates -- Combination Logic -- Sequential Logic -- Fundamentals Computer Architecture -- Memory -- Input / Output -- Pipelining and CPU Performance -- ARM Architecture and Instructions -- ARM Assembly Language Programming Using Kiel Development Tools -- Conclusion.
Sommario/riassunto	This textbook covers digital design, fundamentals of computer architecture, and assembly language. The book starts by introducing basic number systems, character coding, basic knowledge in digital design, and components of a computer. The book goes on to discuss

information representation in computing; Boolean algebra and logic gates; sequential logic; input/output; and CPU performance. The author also covers ARM architecture, ARM instructions and ARM assembly language which is used in a variety of devices such as cell phones, digital TV, automobiles, routers, and switches. The book contains a set of laboratory experiments related to digital design using Logisim software; in addition, each chapter features objectives, summaries, key terms, review questions and problems. The book is targeted to students majoring Computer Science, Information System and IT and follows the ACM/IEEE 2013 guidelines. • Comprehensive textbook covering digital design, computer architecture, and ARM architecture and assembly • Covers basic number system and coding, basic knowledge in digital design, and components of a computer • Features laboratory exercises in addition to objectives, summaries, key terms, review questions, and problems in each chapter .