Record Nr. UNINA9910792138003321 Autore McAndrew Alasdair Titolo Introduction to cryptography with open-source software / / by Alasdair McAndrew Boca Raton, FL:,: CRC Press, an imprint of Taylor and Francis,, 2012 Pubbl/distr/stampa **ISBN** 0-429-09455-8 1-4398-2570-X Edizione [1st edition] Descrizione fisica 1 online resource (456 p.) Collana Discrete Mathematics and Its Applications A Chapman & Hall Book Disciplina 005.8/2 Soggetti Computer security Cryptography - Mathematics Data encryption (Computer science) Open source software Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references. Nota di contenuto Front Cover; Contents; Preface; Chapter 1. Introduction to cryptography; Chapter 2. Basic number theory; Chapter 3. Classical cryptosystems; Chapter 4. Introduction to information theory; Chapter 5. Public-key cryptosystems based on factoring; Chapter 6. Public-key cryptosystems based on logarithms and knapsacks; Chapter 7. Digital signatures; Chapter 8. Block ciphers and the data encryption standard; Chapter 9. Finite fields; Chapter 10. The Advanced Encryption Standard; Chapter 11. Hash functions; Chapter 12. Elliptic curves and cryptosystems; Chapter 13. Random numbers and stream ciphers Chapter 14. Advanced applications and protocolsAppendix A. Introduction to Sage: Appendix B. Advanced computational number

theory; Bibliography; Back Cover

Sommario/riassunto

Once the privilege of a secret few, cryptography is now taught at universities around the world. Introduction to Cryptography with Open-Source Software illustrates algorithms and cryptosystems using examples and the open-source computer algebra system of Sage. The author, a noted educator in the field, provides a highly practical learning experience by progressing at a gentle pace, keeping

mathematics at a manageable level, and including numerous end-of-chapter exercises.