1. Record Nr. UNINA9910299233203321 Autore Kneusel Ronald T Titolo Numbers and Computers / / by Ronald T. Kneusel Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2015 3-319-17260-3 **ISBN** Edizione [1st ed. 2015.] Descrizione fisica 1 online resource (237 p.) 004 Disciplina 005.1 518 519 Soggetti Computer arithmetic and logic units Software engineering Computer science - Mathematics Applied mathematics **Engineering mathematics** Arithmetic and Logic Structures Software Engineering Computational Mathematics and Numerical Analysis Mathematical and Computational Engineering Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di contenuto Number Systems -- Integers -- Floating Point -- Big Integers and Rational Arithmetic -- Fixed-Point Numbers -- Decimal Floating Point -- Interval Arithmetic. Sommario/riassunto This is a book about numbers and how those numbers are represented in and operated on by computers. It is crucial that developers understand this area because the numerical operations allowed by computers, and the limitations of those operations, especially in the area of floating point math, affect virtually everything people try to do with computers. This book aims to fill this gap by exploring, in

sufficient but not overwhelming detail, just what it is that computers do with numbers. Divided into two parts, the first deals with standard

representations of integers and floating point numbers, while the second details several other number representations. Each chapter ends with exercises to review the key points. Topics covered include interval arithmetic, fixed-point numbers, floating point numbers, big integers and rational arithmetic. This book is for anyone who develops software including software engineerings, scientists, computer science students, engineering students and anyone who programs for fun.