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Autore	Abran Alain <1949->
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Sommario/riassunto

A rigorous, step-by-step approach to Evaluating and designing software measuresHundreds of software measures have been proposed to the industry over the past forty years, but limitations in their design mean that most of them are of insufficient use to practitioners. So how can practitioners recognize which measures are sound and useful for decision-making? Moreover, for those who have to design new software measures, what must they do to build sound ones?Software Metrics and Software Metrology looks at the fundamentals of the design of a measurement method, which forms the foundation of the measures available in the sciences and in engineering. Alain Abran provides a step-by-step approach to both analyzing the design of current software measures and designing new, robust software measures for a specific business or engineering need. He draws upon years of experience to ensure that software engineers and managers will apply the best practices in software measurement-and therefore be equipped to respond to the most demanding customers and feel supported by senior executives.. Presents the key concepts that dictate whether a software measure's design is sufficiently strong. Features several case studies analyzing strengths and weaknesses in the design of some of the software measures most widely used or quoted. Describes how lessons learned led to the design of the COSMIC - ISO 19761 method for the measurement of the functional size of software, from its initial prototype to its adoption by the ISO as an international standard. Illustrates day-to-day software measurement issues that have not been seriously addressed, from convertibility across measurement designs to measurement standard etalons. Includes chapter exercises for classroom useSoftware Metrics and Software Metrology is meant for software quality specialists and process improvement analysts and managers, in software organizations of all sizes. In addition, this book introduces many of the theoretical concepts and references needed by professionals, managers, and students to help them understand the fundamentals of the identification and evaluation of software development and maintenance processes, as well as improvements to them.