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	Sommario/riassunto	This book discusses theoretical and applied aspects of Sturm-Liouville theory and its generalization. It introduces and classifies generalized Sturm-Liouville problems in three different spaces: continuous, discrete, and q-discrete spaces, focusing on special functions that are solutions of a regular or singular Sturm-Liouville problem. Further, it describes the conditions under which the usual Sturm-Liouville problems with symmetric solutions can be extended to a larger class, particularly highlighting the solutions of generalized problems that result in new orthogonal sequences of continuous or discrete functions. Sturm-Liouville theory is central to problems in many areas, such as engineering, mathematics, physics, and biology. This accessibly written book on the topic is a valuable resource for a broad interdisciplinary readership, from novices to experts.