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	Sommario/riassunto	One of the most preeminent ways of applying mathematics in real-world scenario modeling involves graph theory. A graph can be undirected or directed depending on whether the pairwise relationships among objects are symmetric or not. Nevertheless, in many real-world situations, representing a set of complex relational objects as directed or undirected is not su¢ cient. Weighted graphs o§er a framework that helps to over come certain conceptual limitations. We show using the concept of an isomorphism that weighted graphs have a natural connection to fuzzy graphs. As we show in the book, this allows results to be carried back and forth between weighted graphs and fuzzy graphs. This idea is in keeping with the important paper by Klement and Mesiar that shows that many families of fuzzy sets are lattice isomorphic to each other. We also outline the important work of Head and Weinberger that show how results from ordinary mathematics can

be carried over to fuzzy mathematics. We focus on theconcepts connectivity, degree sequences and saturation, and intervals and gates in weighted graphs.