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A pioneer in the fields of statistics and probability theory, Richard von Mises (1883-1953) made notable advances in boundary-layer-flow theory and airfoil design. This text on compressible flow, unfinished upon his sudden death, was subsequently completed in accordance with his plans, and von Mises' first three chapters were augmented with a survey of the theory of steady plane flow. Suitable as a text for advanced undergraduate and graduate students - as well as a reference for professionals - Mathematical Theory of Compressible Fluid Flow examines the fundamentals of high-speed flows, with