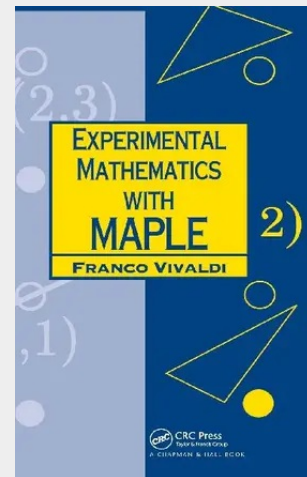


Experimental Mathematics with Maple

As discrete mathematics rapidly becomes a required element of undergraduate mathematics programs, algebraic software systems replace compiled languages and are now most often the computational tool of choice. Newcomers to university level mathematics, therefore, must not only grasp the fundamentals of discrete mathematics, they must also learn to use an algebraic manipulator and develop skills in abstract reasoning. Experimental Mathematics with MAPLE uniquely responds to these needs. Following an emerging trend in research, it places abstraction and axiomatization at the end of a learning process that begins with computer experimentation. It introduces the foundations of discrete mathematics and, assuming no previous knowledge of computing, gradually develops basic computational skills using the latest version of the powerful MAPLE software. The author's approach is to expose readers to a large number of concrete computational examples and encourage them to isolate the general from the particular, to synthesize computational results, formulate conjectures, and attempt rigorous proofs. Using this approach, Experimental Mathematics with MAPLE enables readers to build a foundation in discrete mathematics, gain valuable experience with algebraic computing, and develop a familiarity with basic abstract concepts, notation, and jargon. Its engaging style, numerous exercises and examples, and Internet posting of selected solutions and MAPLE worksheets make this text ideal for use both in the classroom and for self-study.

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