developing serious mathematical software to see the interplay between theory and implementation.

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11[65–02, 68–02, 68U07].—JOSEF HOSCHEK & DIETER LASSER, *Fundamentals of Computer Aided Geometric Design* (translated from the German by Larry L. Schumaker), A K Peters, Wellesley, MA, 1993, xviii + 727 pp., $23\frac{1}{2}$ cm. Price $79.95.

We have here a fine addition to the textbook literature in computer-aided geometric design (CAGD). The book evolved in several stages from lecture notes (in German) prepared in 1986. The first published edition appeared in German under the Teubner imprint, and the second German edition appeared in 1992. Larry Schumaker undertook the translation and typesetting that resulted in the edition reviewed here.

The text gives a systematic account of CAGD, and is very much up-to-date. In a short review, we can only outline the contents chapter-by-chapter. Chapter 1 discusses transformations, projections, visibility methods, shading and reflection. Chapter 2 reviews elementary differential geometry, classical interpolation methods, and least squares procedures. Chapter 3 is about splines, including tension splines and exponential splines, all in one variable. Chapter 4 gives the theory of B-splines and Bézier curves. This occupies almost 100 pages. Chapter 5 continues with more technical spline topics: "FC" continuity, curvature continuity, Manning's splines, tau-splines, etc. Chapter 6 begins the study of spline surfaces, including tensor-product surfaces and splines on triangulations. Chapter 7 continues the study of surfaces, including multi-patch methods. Chapter 8 is devoted to Gordon-Coons surfaces (blending methods). Chapter 9 deals with scattered data interpolation by several procedures, including radial basis methods, Shepard's method, and methods from the finite element realm. Chapter 10 is devoted to basis transformations for the representation of curves and surfaces. In Chapter 11, methods for problems in high dimensions are discussed. The last five chapters deal with intersections of curves and surfaces, smoothing techniques, blending methods, offset curves and surfaces, and applications to milling processes.

The book has 727 pages, a bibliography of 83 pages, and a wealth of figures (approximately one per page). The authors (and translator) are to be congratulated for producing a comprehensive book on a timely topic.

E. W. C.

12[68–01, 68U05].—JOSEPH O'ROURKE, *Computational Geometry in C*, Cambridge Univ. Press, Cambridge, MA, 1994, xii + 346 pp., 26 cm. Price $59.95 hardcover, $24.95 paperback.

Computational geometry could be an ideal subject for undergraduate study. Students of mathematics would see how challenging it is to apply mathematical