Preface

Sequential statistics is concerned with treatment of data when the number of observations is not fixed in advance. Since Wald (1947) wrote his celebrated book, the subject has grown considerably, especially in the areas of sequential estimation and biostatistics. The author's book THE SEQUENTIAL STATISTICAL ANALYSIS OF HYPOTHESIS TESTING, POINT AND INTERVAL ESTIMATION, AND DECISION THEORY (available from American Sciences Press, Inc., 20 Cross Road, Syracuse, New York 13224-2104, U.S.A.), ISBN 0-935950-17-6, is a comprehensive 680 page reference to the field of sequential analysis; everyone reading the present new work will likely want to see that there is at least a copy of that comprehensive book in their institution's library, and many serious researchers will want a copy in their personal libraries. Of that previous book, reviewers said "There are plenty of examples and problems" and "The presentation is clear and to the point." In contrast, the present new book is designed for a semester's course and is thus less than half the length of the previous book. Other books by Ghosh (1970), Siegmund (1985), Wetherill and Glazebrook (1986) and Ghosh, Mukhopadhyay and Sen (1997) are either too theoretical or limited in scope. It is so easy for an instructor to get side-tracked and bogged down with details and running out of time to cover interesting topics.

In this new version, I have tried to select only those topics that can be covered in a semester's course. Still, the instructor may not be able to cover all the topics in the book in one semester. Thus he has some flexibility in the choice of topics. Straightforward and elementary proofs are provided and for more details the reader is referred to the earlier book of the author. Thus, the mathematical and statistical level of the book is maintained at an elementary level. This book is geared to seniors and first year graduate students who have had a semester's course in each of advanced calculus, probability and statistical inference.

A semester's course can be based on chapter 1, chapter 2 (excluding section 2.7) chapter 3 (excluding sections 3.7 and 3.8) chapter 4 (excluding section 4.9) and chapter 5 (excluding sections 5.5 and 5.6). The instructor might devote three 50-minute lectures to chapter 1, ten lectures to chapter 2, nine lectures to each of chapter 3 and 4, and five lectures in chapter 5, with the remaining lectures devoted to sections of his/her and student's interests.

The chapter on applications to biostatistics is new and the supplement containing computer programs to certain selected sequential procedures is also provided. Useful illustrations and numerical tables are provided wherever possible. Problems identified by the section to which they pertain are given at the ends of all chapters. An extensive list of references that are cited in the book is given at the end. This list of references is by no means complete.

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