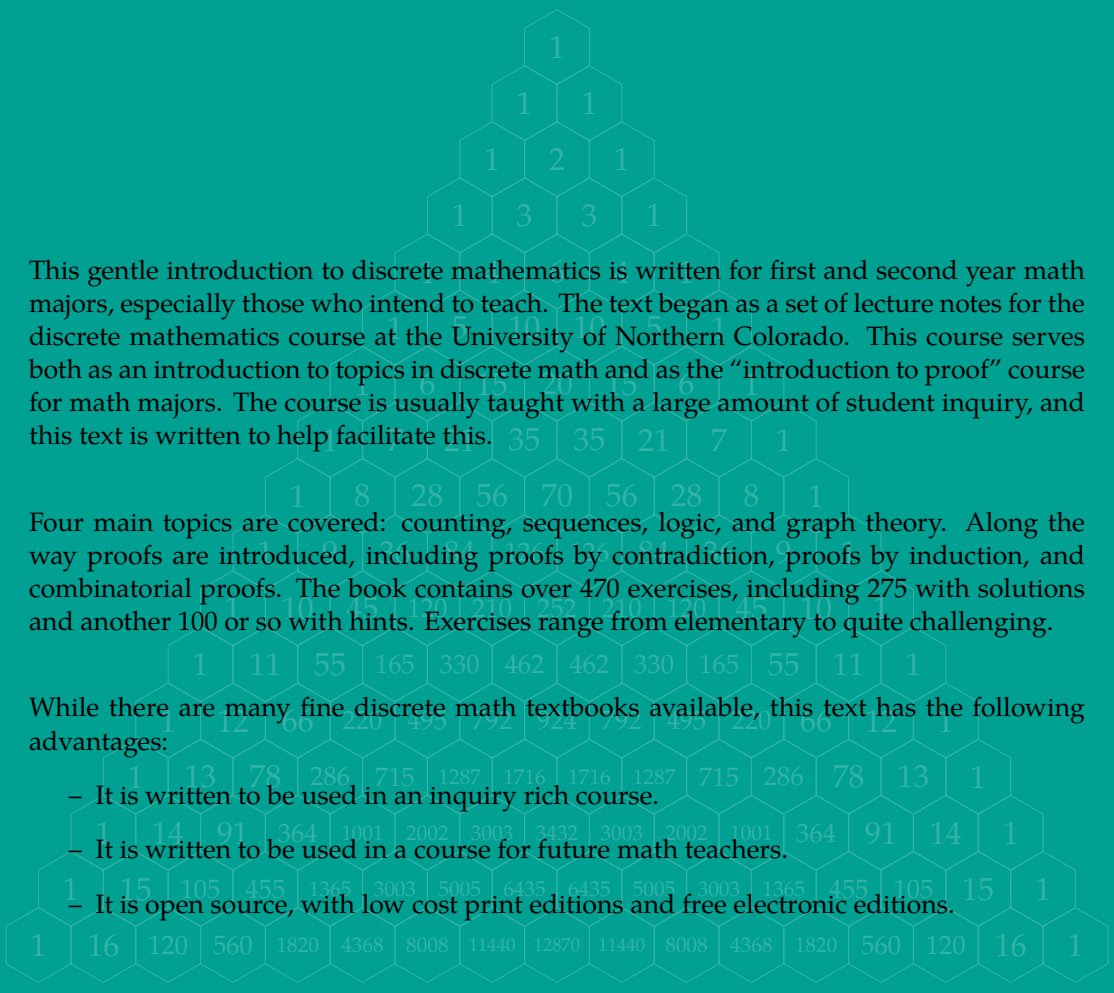
Mathematics



This gentle introduction to discrete mathematics is written for first and second year math majors, especially those who intend to teach. The text began as a set of lecture notes for the discrete mathematics course at the University of Northern Colorado. This course serves both as an introduction to topics in discrete math and as the "introduction to proof" course for math majors. The course is usually taught with a large amount of student inquiry, and this text is written to help facilitate this.

Four main topics are covered: counting, sequences, logic, and graph theory. Along the way proofs are introduced, including proofs by contradiction, proofs by induction, and combinatorial proofs. The book contains over 470 exercises, including 275 with solutions and another 100 or so with hints. Exercises range from elementary to quite challenging.

While there are many fine discrete math textbooks available, this text has the following advantages:

- It is written to be used in an inquiry rich course.
- It is written to be used in a course for future math teachers.
- It is open source, with low cost print editions and free electronic editions.

To download the current version, or for information on obtaining the PreTeXt source, visit:
`http://discrete.openmathbooks.org/`.