

be called the feasibility problem of polyhedra (i.e., deciding if a point satisfies a set of linear inequalities). This chapter also includes the longest increasing subsequence problem and other miscellaneous topics.

The book contains many figures, numerical examples, exercises and answers. It is a very nice textbook as well as a good reference book. Although the book is published in 1988, it contains recent references some from 1987 and 1988.

The writing is formal and rigorous as many books in mathematics are. It is a book which should be on the bookshelf of all people interested in combinatorics.

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Minimal flows and their extensions, by Joseph Auslander. North-Holland Mathematical Studies, vol. 153, North-Holland, Amsterdam, New York, Oxford and Tokyo, 1988, xi + 265 pp., \$86.75. ISBN 0-444-70453-1

Abstract topological dynamics deals with actions of groups on compact spaces. Such an action is called a *flow*. At present the emphasis of research is on *minimal flows*, i.e., actions for which no proper closed invariant subsets exist.

The abstract axiomatic approach to the subject began with Gottschalk and Hedlund's pioneering book of 1955 [G-H], where the search for a suitable framework for the (then) new subject is apparent.

The introduction of the enveloping semigroup of a flow by R. Ellis (1960) [E,1] and the proof that it actually is a group when the flow is distal, were the next important achievements.

The action of the group T on the compact space X is *distal* if (assuming the existence of a metric on X) $\text{Inf}\{d(tx, ty) : t \in T\} > 0$ for every pair of distinct points $x, y \in X$. This notion which was first introduced by D. Hilbert, was very central to the development of the subject. A stronger condition on a flow is that the group T acts *isometrically* on X . For a while it was not clear whether these two conditions are not equivalent. Then in 1963 H. Furstenberg realized that Kakutani-Anzai's constructions of skew products on the torus yield examples of minimal distal but not isometric flows. A simple example of this type is the transformation $(x, y) \mapsto (x + \alpha, x + y)x, y \in \mathbb{R}/\mathbb{Z}$, α irrational. (At the same time and independently another example was found in [A-G-H].) H. Furstenberg then took the next major step in the theory of topological dynamics, a step which gave the subject its present character. Recognizing the above example to be an *isometric extension* of an isometric flow, (the rotation by α on the circle) and observing that such extensions preserve distality, he defined the class of Quasi-Isometric flows to be the class of minimal flows which can be