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1.5.4 Maximum utility matchings 1.5.5 Popular matchings; 1.5.6 Profile-based optimal matchings; 1.5.7 Extensions of ha; 1.5.8 Motivation; Stable Matching Problems; 2. The Stable Marriage problem: An update; 2.1 Introduction; 2.2 The 12 open problems of Gusfield and Irving; 2.2.1 Introduction; 2.2.2 1. Maximum number of stable matchings; 2.2.3 2. The "divorce digraph"; 2.2.4 3. Parallel algorithms for stable marriage; 2.2.5 4. Batch stability testing; 2.2.6 5. Structure of stable marriage with ties; 2.2.7 6. Sex-equal matching; 2.2.8 7. Lying and egalitarian matchings
2.2.9 10. Succinct certificates 2.2.10 11. Algorithmic improvements; 2.3 The Subramanian and Feder papers; 2.3.1 Subramanian: sri and network stability; 2.3.2 Feder: sri and 2-sat; 2.3.3 Other fixed-point approaches; 2.4 Linear programming approaches; 2.5 Constraint programming approaches; 2.5.1 Introduction; 2.5.2 Preliminaries; 2.5.3 Overview of the csp model; 2.5.4 Arc consistency in the csp model; 2.6 Paths to stability; 2.6.1 Introduction; 2.6.2 The Roth-Vande Vate Mechanism; 2.6.3 The Random Order Mechanism; 2.6.4 Other decentralised algorithms; 2.7 Median stable matchings
2.8 Size versus stability

Sommario/riassunto

Matching problems with preferences are all around us - they arise when agents seek to be allocated to one another on the basis of ranked preferences over potential outcomes. Efficient algorithms are needed for producing matchings that optimise the satisfaction of the agents according to their preference lists. In recent years there has been a sharp increase in the study of algorithmic aspects of matching problems with preferences, partly reflecting the growing number of applications of these problems worldwide. This book describes the most important results in this area, providing a timely upda
