----Contents ----

	Prej	face	xi
1	Int	oduction	1
	1.1	A Number of Economic Applications	1
	1.2	A Mix of Techniques	3
	1.3	Brief History	4
	1.4	Literature	5
	1.5	About These Notes	6
	1.6	Organization of This Book	7
		Notation and Conventions	9
2	Moı	nge–Kantorovich Theory	11
		Couplings	11
	2.2	Optimal Couplings	13
	2.3	Monge-Kantorovich Duality	14
	2.4	Equilibrium	18
	2.5	A Preview of Applications	19
	2.6	Exercises	22
	2.7	References and Notes	23
3	The	Discrete Optimal Assignment Problem	24
		Duality	25
	3.2	Stability	26
	3.3	Pure Assignments	27
	3.4	Computation via Linear Programming	29
	3.5	Exercises	32
	3.6	References and Notes	33
4	One	e-Dimensional Case	34
	4.1	Copulas and Comonotonicity	35
		Supermodular Surplus	36
	4.3	The Wage Equation	40
	4.4	Numerical Computation	42
	4.5	Exercises	43
	4.6	References and Notes	44

5	Power Diagrams	45
J	5.1 Hotelling's Location Model	45
	5.2 Capacity Constraints	48
	5.3 Computation via Convex Optimization	53
	5.4 Exercises	54
	5.5 References and Notes	56
		57
6	Quadratic Surplus	37
	6.1 Convex Analysis from the Point of View	57
	of Optimal Transport	60
	6.2 Main Results	63
	6.3 Vector Quantiles	65
	6.4 Polar Factorization	68
	6.5 Computation by Discretization	69
	6.6 Exercises	70
	6.7 References and Notes	/0
7	More General Surplus	72
	7.1 Generalized Convexity	72
	7.2 The Main Results	76
	7.3 Computation by Entropic Regularization	78
	7.4 Exercises	79
	7.5 References and Notes	80
8	Transportation on Networks	81
	8.1 Setup	82
	8.2 Optimal Flow Problem	87
	8.3 Integrality	90
	8.4 Computation via Linear Programming	91
	8.5 Exercises	93
	8.6 References and Notes	94
9	Some Applications	95
	9.1 Random Sets and Partial Identification	95
	9.2 Identification of Discrete Choice Models	98
	9.3 Hedonic Equilibrium	101
	9.4 Identification via Vector Quantile Methods	101
	9.5 Vector Quantile Regression	104
	9.6 Implementable Mechanisms	110
	9.7 No-Arbitrage Pricing of Financial Derivatives	115
	9.8 References and Notes	117
		11/

10 Conclusion	118
10.1 Mathematics	118
10.2 Computation	119
10.3 Duality	120
10.4 Toward a Theory of "Equilibrium Transport"	122
10.5 References and Notes	123
A Solutions to the Exercises	125
A.1 Solutions for Chapter 2	125
A.2 Solutions for Chapter 3	128
A.3 Solutions for Chapter 4	130
A.4 Solutions for Chapter 5	133
A.5 Solutions for Chapter 6	137
A.6 Solutions for Chapter 7	139
A.7 Solutions for Chapter 8	141
B Linear Programming	
B.1 Minimax Theorem	144
B.2 Duality	144
B.3 Link with Zero-Sum Games	146
B.4 References and Notes	148
C Quantiles and Copulas	
C.1 Quantiles	149
C.2 Copulas	151
C.3 References and Notes	153
D Basics of Convex Analysis	
D.1 Convex Sets	154
D.2 Convex Functions	155
D.3 References and Notes	159
E McFadden's Generalized Extreme Value Theory	
E.1 References and Notes	160
References	161
Index	169