CONTENTS

Preface

	CHAPTER I	
	Introduction	
1.1.	The Field of Endeavor	
1.2.		
1.3.		
1.4.	The Arrangement of the Book	. 1
	CHAPTER 2	
	Problems and Solution Methods	
2.1.	Introduction	. 1
2.2.	Some Properties of M-Situations	. 1
2.3.	W-Problems and M-Situations	. 2
2.4.	A Simple Example of a W-Problem: The Tower of Hanoi.	. 2
2.5.	The Logic Theorist—Another Example	. 2
2.6.	Strategies and Their Description	. 3
2.7.	Evaluations: A Method for Defining Strategies	
2.8.	Strategies Based on T'	. 3
2.9.	Strategies Based on Subgoals—The General Problem Solver	. 4
2.10	Sundry Remarks Regarding the Search for Winning Sequence	es 4
	CHAPTER 3	
	Games and Solution Methods	
3.1.	Introduction	. 5
3.2.	Game Situations and Strategies	. 5
3.3.		. 5
3.4.	The Nim Class of Games—An Example	. 6
3.5.	The Tic-tac-toe-like Games—Another Example	

X	CONTENTS			
 3.6. Evaluating Strategies in Board Games 3.7. Strategies Based on Graph Decomposition 3.8. Some Examples of Strategy Construction 3.9. Approximation to Strategies in Tic-tac-toe-like Games . 3.10. Recognizing Forcing States Through Linear Evaluation . 				
CHAPTER 4				
Describing Patterns				
 4.1. Introduction 4.2. Some Basic Terms and Discussions 4.3. Conceptions—A Description Language 4.4. A Recognition Algorithm Using Conceptions 4.5. Conjunctive and Simple Concepts 4.6. A Generalized Description Language: Syntactic Axiomatiz 4.7. Other Description Languages 	114 123 rations 131			
CHAPTER 5				
Learning and Generalization				
 5.1. Introduction 5.2. Learning Conjunctive Concepts 5.3. Learning Simple Concepts 5.4. Problems of Learning and Feature Extraction 5.5. Generalization—Concept Formation and Languages 5.6. Learning Games by Generalization—The Importance of Detion Languages 	160 168 escrip-			
References	178			
Bibliography	182			
Subject Index				