

## TABLE OF CONTENTS

---

1. INTRODUCTION TO RULE-ORIENTED PROGRAMMING IN LOOPS .....	15
1.1 Introduction.....	15
1.2 Basic Concepts .....	16
1.3 Organizing a Rule-Oriented Program.....	17
1.4 Control Structures for Selecting Rules .....	18
1.5 One-Shot Rules.....	22
1.6 First-Last Rules .....	23
1.7 Saving an Audit Trail of Rule Invocation .....	23
1.7.1 Motivations and Applications.....	23
1.7.2 Overview of Audit Trail Implementation.....	24
1.7.3 An Example of Using Audit Trails.....	24
1.8 Comparison with Other Rule Languages .....	26
1.8.1 The Rationale for Factoring Meta-Level Syntax .....	26
1.8.2 The Rationale for RuleSet Hierarchy.....	27
1.8.3 The Rationale for RuleSet Control Structures .....	28
1.8.4 The Rationale for an Integrated Programming Environment.....	29
2. THE RULE LANGUAGE .....	31
2.1 Language Introduction.....	31
2.2 Kinds of Variables .....	32
2.3 Rule Forms.....	34
2.4 Infix Operators and Brackets.....	35
2.5 Interlisp Functions and Message Sending .....	37

2.6 Variables and Properties .....	38
2.7 Computing Selectors and Variable Names .....	39
2.8 Recursive Compound Literals .....	40
2.9 Assignment Statements .....	41
2.10 Meta-Assignment Statements .....	41
2.11 Push and Pop Statements.....	42
2.12 Invoking RuleSets .....	42
2.13 Transfer Calls .....	43
2.14 Stop Statements.....	43
 3. USING RULES IN LOOPS .....	 45
3.1 Creating RuleSets .....	45
3.2 Editing RuleSets.....	45
3.3 Copying RuleSets.....	46
3.4 Saving RuleSets on Lisp Files.....	47
3.5 Printing RuleSets.....	47
3.6 Running RuleSets from LOOPS.....	47
3.7 Installing RuleSets as Methods .....	48
3.8 Installing RuleSets in ActiveValues .....	49
3.9 Tracing and Breaking RuleSets.....	50
3.10 The Rule Exec.....	51
3.11 Auditing RuleSets.....	52
3.12 Loading Rules .....	52
3.13 Known Problems .....	52