

J. W. Lloyd

# Foundations of Logic Programming



Springer-Verlag  
Berlin Heidelberg New York Tokyo

# CONTENTS

Chapter 1. DECLARATIVE SEMANTICS	1
§1. Introduction	1
§2. Logic programs	4
§3. Models of logic programs	10
§4. Answer substitutions	17
§5. Fixpoints	24
§6. Least Herbrand model	29
Problems for chapter 1	32
Chapter 2. PROCEDURAL SEMANTICS	35
§7. Soundness of SLD-resolution	35
§8. Completeness of SLD-resolution	42
§9. Independence of the computation rule	45
§10. SLD-refutation procedures	47
§11. Cuts	56
Problems for chapter 2	60
Chapter 3. NEGATION	62
§12. Negative information	62
§13. Finite failure	65
§14. Programming with the completion	68
§15. Soundness of the negation as failure rule	74
§16. Completeness of the negation as failure rule	82
Problems for chapter 3	87

<b>Chapter 4. PERPETUAL PROCESSES</b>	<b>91</b>
§17. Complete Herbrand interpretations	91
§18. Properties of $T'_P$	100
§19. Semantics of perpetual processes	107
Problems for chapter 4	111
<b>REFERENCES</b>	<b>113</b>
<b>NOTATION</b>	<b>119</b>
<b>INDEX</b>	<b>121</b>