

<<系统建模与仿真>>

图书基本信息

书名：<<系统建模与仿真>>

13位ISBN编号：9787308054805

10位ISBN编号：7308054802

出版时间：2007-8

出版单位：浙江大学

作者：方水良

页数：235

字数：397000

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

<<系统建模与仿真>>

内容概要

Computer simulation is a discipline of designing a model of an actual or theoretical physical system, executing experiments on the computer, analyzing the simulated outputs, and optimizing the system. It is a powerful tool that is often applied to the design and analysis and optimization of complex systems.

This book aims to give a fundamental knowledge about the system concepts, system modeling methodology, and computer simulation technology. The main contents of the book are about the technology and application of the Witness simulation software of the Lanner Groups. The ACD (Activity Cycle Diagram) based system analysis and modeling, and the computerized modeling with the Witness' Elements, Rules, Actions, etc. are discussed. Some examples have presented and explained in order to make the contents more understandable.

This manuscript is firstly prepared in 2005. After two years' teaching in the Industrial Engineering classes of Zhejiang University, several thorough modifications have been made and this is the third version.

This book is hoped useful for the Chinese universities to have a bilingual course about the System Modeling and Simulation, and also useful for the users of the Witness software.

<<系统建模与仿真>>

书籍目录

Chapter 1 Introduction to System , Modeling and Simulation

- 1.1 System
- 1.2 System Modeling
 - 1.2.1 Physical model
 - 1.2.2 Mathematical model
 - 1.2.3 Graphical model
- 1.3 System Simulation
- 1.4 Computer Simulation
 - 1.4.1 Advantages
 - 1.4.2 Disadvantages
 - 1.4.3 Classifications
- 1.5 Simulation Execution
 - 1.5.1 Manual simulation
 - 1.5.2 Programming with general purpose computer language
 - 1.5.3 Programming with special simulation language and simulator
- 1.6 Development of Simulation
 - 1.6.1 The late 1950s and 1960s
 - 1.6.2 The 1970s and early 1980s
 - 1.6.3 The late 1980s and 1990s
 - 1.6.4 The present and future
- 1.7 General Steps for Simulation Project
 - 1.7.1 Bound the system based on the objective and preconditions
 - 1.7.2 Build the logical or conceptual model
 - 1.7.3 Build the computer model based on the conceptual model
 - 1.7.4 Verify and validate the model
 - 1.7.5 Collect data and information
 - 1.7.6 Experiment on the computer model
 - 1.7.7 Analyze outputs
 - 1.7.8 Summarize project

Questions

Chapter 2 Discrete Event System Modeling

- 2.1 Discrete Event System
- 2.2 General Methodologies for DES Modeling
 - 2.2.1 Event-oriented approach
 - 2.2.2 Process-oriented approach
 - 2.2.3 Activity-oriented approach
 - 2.2.4 Discussion about the three approaches
- 2.3 More about Activity Cycle Diagram
- 2.4 Draw Activity Cycle Diagram
 - 2.4.1 Specify the model domain
 - 2.4.2 List all entities and their key attributes
 - 2.4.3 Define individual closed cycles
 - 2.4.4 Merge the individual activity cycles

<<系统建模与仿真>>

- 2.4.5 Verify and validate the ACD diagram
- 2.5 Extended Convention for Activity Cycle Diagram
- 2.6 Use ACD in Simulation Study
- 2.7 DES Modeling in Witness

Questions

Chapter 3 Simulation and Manual Simulation

3.1 Example of a Simple Service System

- 3.1.1 A bank system
- 3.1.2 Objectives for system evaluation

3.2 Methods for System Evaluation

- 3.2.1 Scientific guessing
- 3.2.2 Queuing theory
- 3.2.3 Simulation
- 3.2.4 Calculation with the help of Excel

3.3 General Terminologies of Simulation

3.3.1 Parts (Customers)

3.3.2 Resources

3.3.3 Attributes

3.3.4 Variables

3.3.5 Queues

3.3.6 Statistical accumulators

3.3.7 Events

3.3.8 Simulation clock

3.3.9 Randomness in simulation

3.4 Simulating Algorithms

3.4.1 Event-oriented simulation

3.4.2 Process-oriented simulation

.....

Chapter 4 Witness Startup

Chapter 5 Witness Elements

Chapter 6 Rules and Actions

Chapter 7 Functions and Distributions

Chapter 8 Witness Programming

Chapter 9 Witness Practices

References

Acknowledgements

<<系统建模与仿真>>

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>