

<<系统仿真及ProModel软件应用>>

图书基本信息

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内容概要

本书从分析离散事件系统的动态特性开始，介绍了系统仿真的基本概念与方法。结合promodel仿真软件的使用，讨论了数据收集与分析、仿真模型构建、模型验证与确认的方法与过程，对输出分析的基本方法也进行了详细的阐述。针对制造系统、物料搬运系统的特点，描述了仿真应用的典型问题，提供了建模的方法与技巧。

本书用了近一半的篇幅，为读者提供了10个教学实验的指导，从开始动手使用promodel软件，到最后能够进行复杂系统的建模与仿真分析，实现了从基本理论到应用实践的顺利过渡。

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版权页：插图：U.S.Construction Company has one bulldozer, four trucks and two loaders. The bulldozer stockpiles material for the loaders. The amount of material must be stocked prior to the initiation of any load operation. The time for the bulldozer to stockpile material is Erlang distributed and consists of the sum of two exponential variables, each with a mean of 4. This corresponds to an Erlang variable with a mean of 8 and a variance of 32. In addition to this material, a loader and an unloaded truck must be available before the loading operation can begin. Loading time is exponentially distributed with a mean time of 14 minutes for loader 1 and 12 minutes for loader 2. After a truck is loaded, it is hauled and then dumped; it must be returned before the truck is available for further loading. Hauling time is normally distributed. The average hauling time is 22 minutes when loaded and 18 minutes when unloaded. In both cases, the standard deviation is three minutes. Dumping time is uniformly distributed between two and eight minutes. Following a loading operation, the loader must rest for five minutes before it is available to begin loading again. Simulate this system at the U.S. Construction Company for a period of 2,000 hours of operation and analyze the results. At what Automotive machined castings arrive randomly (exponential, mean of six minutes) from the supplier to be assembled at one of five identical engine assembly stations. A fork truck delivers the castings from the shipping dock to the engine assembly department. A recirculating conveyor connects the assembly stations. The forklift truck moves at a velocity of five feet per second. The distance from the shipping dock to the assembly department is 1,000 feet. The conveyor is 5,000 feet long and moves at a velocity of five feet per second.

编辑推荐

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