

Simulation - Samples of exam problems

In exam 5 problems, one of the first type, two like problems 2 and 3 and two model building (or other types of applied) problems.

Problem 1 *Describe briefly*

1. *What is a shuffled random number generator.*
2. *How one can test the serial correlation of a random number sequence.*
3. *What does Monte-Carlo integration have in common with generation of random numbers from a distribution with known density function.*

Problem 2 *Compare the event based and the object based approaches to simulation of discrete time systems.*

Problem 3 *How to build regression models using simulation experiments.*

Problem 4 *Sketch a framework for simulation of queuing networks. That is, define on general level the structures that can be used to model a system where jobs can move around between several servers. Assume that the jobs carry the information that is used in deciding how to move from one server to another.*