Information and Management Sciences
Volume 4, Number 1, pp.11-21, 1993

Applying Computer Algebra in Information Systems

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Abstract

We show an example in which management science and information systems can be joined. Specifically, we demonstrate that for a class of queueing models, computer algebra can be used to obtain queueing measures. Moreover, we show that Markov analysis as a methodology is extended by the use of symbolic computation to obtain otherwise intractable solutions. In addition, since closed-form results can be obtained, this example shows that computer algebra is feasible for applications such as decision support systems.

Keywords: Queuing Models, Markov Analysis, Computer Algebra.