Folegati, Katia; **Segala, Roberto**

Coin lemmas with random variables. (English) Zbl 1007.68128

De Alfaro, Luca (ed.) et al., Process algebra and probabilistic methods. Performance modelling and verification. Joint international workshop, PAPM-PROBMIV 2001, Aachen, Germany, September 12-14, 2001. Proceedings. Berlin: Springer. Lect. Notes Comput. Sci. 2165, 71-86 (2001).

Summary: Coin lemmas are a tool for decoupling probabilistic and non-deterministic arguments in the analysis of concurrent probabilistic systems. They have revealed to be fundamental in the analysis of randomized distributed algorithms, where the interplay between probability and nondeterminism has proved to be subtle and difficult to handle.

We reformulate coin lemmas in terms of random variables obtaining a new collection of coin lemmas that is independent of the underlying computational model and of more general applicability to the study of concurrent nondeterministic probabilistic systems.

For the entire collection see [Zbl 0971.00028].

MSC:

68Q85 Models and methods for concurrent and distributed computing (process algebras, bisimulation, transition nets, etc.)
68Q60 Specification and verification (program logics, model checking, etc.)

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