A Wheel 1-Safe Petri Net Generating all the \( \{0; 1\}^n \) Sequences

Volume 84 - Number 16

Year of Publication: 2013

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10.5120/14657-2946

Abstract

Petri nets are a graphic and mathematic modeling tool which is applicable to several systems and to all those systems presenting particular characteristics such as concurrency, distribution, parallelism, non-determinism and/or stochastically. In this paper, a wheel Petri net whose reachability tree contains all the binary n-tuples or sequences as marking vectors has been defined. The result is proved by the using of the Principle of Mathematical Induction (PMI) on \( jPj=n \).

References

- Harary, F., Graph theory, Addison-Wesley, Massachusetts, Reading, 1969.

**Index Terms**

Computer Science  Applied Mathematics

**Keywords**

1-safe Petri net  reachability tree  binary n-vector  marking vector  wheel graph