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Verteilte Algorithmen

Sommersemester 2002

Serie 6

6. Juni 2002

Aufgabe 1 (4 Punkte)

Bearbeiten Sie Übung 8.3 aus [Lyn96]!

Aufgabe 2 (4 Punkte)

Bearbeiten Sie Übung 8.4 aus [Lyn96]!

Aufgabe 3 (4 Punkte)

Bearbeiten Sie Übung 8.13 aus [Lyn96]:

Consider the following trace properties P; in each case, $sig(P)$ is the signature consisting of no inputs and outputs $\{1, 2\}$.

(a) Suppose $traces(P)$ is the set of sequences over $\{1, 2\}$ in which there is no instance of a 1 followed immediately by a 2. Show that P is a safety property.

(b) Suppose that $traces(P)$ is the set of sequences over $\{1, 2\}$ in which every occurence of 1 is eventually followed by a 2. Show that P is a liveness property.

(c) Suppose that $traces(P)$ is the set of sequences over $\{1, 2\}$ in which every occurence of 1 is immediately followed by a 2. Show that P is neither a safety property nor a liveness property. Show explicitly how to express P as the intersection of a safety property and a liveness property.

Literatur

[Lyn96] Nancy Lynch. *Distributed Algorithms.* Morgan Kaufmann Publishers, 1996.

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Abgabe: 10. Juni 2002