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Verteilte Algorithmen

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Aufgabe 1 (3 Punkte)

Prove agreement in Theorem 5.4 [Lyn96] in detail!

Aufgabe 2 (8 Punkte)

Give code for *OptFloodSet*. Complete the proof given in the text by proving Lemmas 6.5, 6.6, and 6.7!

Aufgabe 3 (3 Punkte)

Consider the *EIGStop* algorithm for f failures. Suppose that instead of running $f+1$ rounds, the algorithm only runs for f rounds, with the same decision rule. Describe a particular execution in which the correctness requirements are violated!

Aufgabe 4 (6 Punkte)

Consider the *EIGByz* algorithm. Construct explicit executions to show that the algorithm can give wrong results if it is run with

- Seven nodes, two faults, and two rounds.
- Six nodes, two faults, and three rounds.

Literatur

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

Ausgabe: 13. Mai 2002
Abgabe: 27. Mai 2002