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Side Constraints and Covering Array Generation by Simulated Annealing

One technique for generating covering arrays is simulated annealing, which can be seen as a stochastic graph walk where the vertices are given, but we have flexibility in choosing the edges. The edge set affects not only the expected walk length, but also the sensitivity of that expected value to side constraints. We note that both factors affect cost in software testing applications, and we discuss some heuristics for balancing the two objectives.