

Master's Thesis

The coin weighing problem

The question of finding a small subset of defective coins from a set of regular coins in the fewest number of weighings has been a notorious problem.

Suppose there is a collection of n coins so that some of them are defective. In other words, we know that the weight of regular coins is A , and the weight of the remaining coins is B , where integers A and B are given. The problem is to determine the weight of each coin by weighing subsets of coins in a spring scale. The main figure of merit when studying adaptive coin weighing algorithms is the number of required weighings in the worst-case and in the average-case. In this project, we design and implement an efficient algorithm which works for two coins.

Prerequisites

Coding theory, combinatorics

Good programming skills

Contact

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