

The Minimum Cut Problem For An Undirected Graph

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Abstract –In this project, the goal is to count the number of occurrences of letters in text files and, for instance, identify the most common ones. Three types of counters were analyzed. The *Exact Counter*; which provides the exact count or frequency of each letter present in the text, the *Fixed Probability Counter*, which approximates the frequency or number of counts of each letter in the text using a fixed probability value of $\frac{1}{2}$. The last counting method considered, being the *Decreasing Probability Counter* approximates the count of each letter in the text with each future encounter of the letter having a decreased probability of being counter, with probability $(\frac{1}{\sqrt{2^k}})$ where k is the number of occurrence of the letter of interest.

I. NOTATION AND PROBLEM DEFINITION

II. OUTLINE OF IMPLEMENTATION

III. BRUTE-FORCE / EXHAUSTIVE IMPLEMENTATION

IV. GREEDY-HEURISTICS IMPLEMENTATION

V. PROBABILISTIC AND RANDOMIZED IMPLEMENTATION

VI. COMPUTATIONAL COMPLEXITIES

VII. AUXILIARY FUNCTIONS

REFERENCES

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- [3] Anthony Kim. Min cut and karger's algorithm : Min cut and karger's algorithm, 2016.