

sievenna Requirements Specification

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1 Introduction

sievenna will be a command line tool for compressing and decompressing data.

2 Features

sievenna will support compressing and decompressing arbitrary files. It will use Huffman coding [1, 2] to achieve this. A minimum heap will be implemented to enable quickly forming the Huffman trie. sievenna will not solve climate change.

3 Use

sievenna will take the path to a file as well as the path to an output file as its arguments. Flags will be used to decide whether to compress or decompress and to print logs.

4 Performance

sievenna will compress most files to 70% or less of their original size using constant auxiliary space in linear time.

References

- [1] Matt Mahoney. Data compression explained. **mattmahoney.net**, updated May, 7, 2012.
- [2] Robert Sedgewick and KD Wayne. Algorithms. 4th, 2011.