

Tutorial 8 for COMP 526 – Applied Algorithmics, Spring 2021

Problem 1 (Huffman code)

Compress the text $T = \text{HANNAHBANSBANANASMAN}$ using a Huffman code; give

1. the character frequencies,
2. a step-by-step construction of the Huffman tree,
3. the Huffman code, and
4. the encoded text.
5. Finally, compute the compression ratio of the result.

Problem 2 (Hamming code)

We consider the $4 + 3$ Hamming code from class.

1. Given the message 0101, determine the parity bits and the final transmitted block.
2. Is 11111111 a valid block, i.e., have (detectable) errors occurred?