Lab 8 (26 Mar 2018)

Problem 1 : Implement Huffman's greedy algorithm for encoding symbols. Take as input a list of n symbols and their corresponding frequencies. After constructing the optimal tree, your algorithm should print the encoding of each of the symbols. Also print the size of the encoded file.

Problem 2 : Implement the dynamic programming algorithm for computing the longest increasing subsequence. Read as input a sequence of numbers for e.g. 5 2 8 6 3 6 9 7 & print a longest increasing subsequence: for this example 2 3 6 9 (or 2 3 6 7).

Problem 3*: Write a decoder for the Huffman encoder of Problem 1. You can test your program on text files: Encode an input text file as a binary file, and then decode it, ensuring that you obtain the same file. What is the percentage of compression achieved by the encoding?