EE 409432-Digital Communications
Fall 2018
Simulation of n-gram Huffman Source Codes

Huffman coding is a particular method of compressing data through the use of a code table with encodings of variable lengths. A Huffman code is an optimum, or minimum-redundancy, code, which means that messages which occur with greater probability have shorter encodings.

In this short project you are asked to write up a MATLAB code to simulate n-gram (n=1,2,3, and 4) Huffman source coding algorithm. The input data to the code should be a random source of 5 symbols generated randomly upon the program run. The output of the program code should be the source generated codes along with the coding efficiency (η) for each case (n=1-4). You have to show me that η in (bits/symbols) will increase as n increases.

You have to write up a comprehensive technical report (approximately 10 pages) describing your work and conclusions. All reports should satisfy the following requirements:

1. Group work of (2) students only.
2. It will account for 10% of the final grade.
3. It should have an Abstract, Introduction, Body, and Conclusions and a set of References.

It is important to have a very good presentation for the report. Cheating, spelling mistakes, incoherent presentation, etc. will be taken into account.

Due date: Nov. 29th, 2018

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