Digital Communication and Signal Processing 2024

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Seminar 2

1. The datafile midsummer' contains the text of Shakespeare's comedy A Midsummer Night's Dream' (including text-formatting characters). Based upon this data, construct a probabilistic model for English text and calculate the corresponding entropy.

2. Load the datafile 'message'. The data represent the output of an unknown source.

a). Construct a probability model for the source and compute the corresponding entropy.

b). Build an instantaneously parsable code for the given source.

c). Encode the data by using the code proved. What compression ratio have you achieved? What is the maximum compression ratio you can achieve for this source using such kind of codes?