11th Practical Class – text compression

Exercises

1. Consider the phrase "olha o balão na noite de São João" (you should ignore diacritics/accents, but do not ignore spaces).
   a) If you use a Huffman encoding, how many bits do you need to represent the given text?
   b) Show the construction steps of the Huffman encoding tree you used and what codes are associated with each symbol.

2. Consider the text "pimpampumcadabolamataum":

   a) Define a constant coding system for the text above. What is the minimum code size and the cost of encoding for the given text?

   b) Determine the Huffman coding tree for this text, explaining in detail the whole process. What is the coding cost in this case?

   c) Using the Huffman tree calculated in the previous paragraph, present the codification of the phrase "pimpampum" and its cost. Also display the character encoding individually.