2 Language Models – Entropy

1. Complete the python program `entro.py` to estimate the entropy of a language from a given input text, using:

   (a) Order zero (unigrams): $H = -\sum_{x} p(x) \log p(x)$

   (b) Order 1 (bigrams): $H = -\sum_{x} p(x) \sum_{y} p(y|x) \log p(y|x)$

   (c) Order 2 (trigrams): $H = -\sum_{x} p(x) \sum_{y} p(y|x) \sum_{z} p(z|xy) \log p(z|xy)$