

Information Theory Assignment

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1 Source Coding

1.1 Character Statistics

The entropy $H(X_n)$ is 4.168.

1.2 Bigram Statistics

- a. The joint entropy $H(X_n, X_{n+1})$ is 7.572.
- b. Because they are not i.i.d.
- c. The conditional entropy $H(X_{n+1} | X_n) = H(X_n, X_{n+1}) - H(X_n)$ is 3.404.