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# CMPT 365 Multimedia Systems

## Written Assignment 2

**Deadline 6:00pm, Mar 19, 2021**

**Note:** This assignment is NOT group based. TA will provide submission guidelines.

Textbook 3<sup>rd</sup> Edition (Please see Canvas/Files or Dropbox for the 3<sup>rd</sup> Edition chapters)

7.8 Q1, 3, 13

**EX1.** Give sequence

01101100110011100011011101100111

- (1) What is the second-order entropy of this sequence ? divided by two
- (2) What is the average codeword length (per symbol) if we use 2-symbol extended Huffman coding ?

**EX2.** Given input sequence

acbbaca

and assume that the initial dictionary is

0 a

1 b

2 c

- (1) What is the output sequence for the input sequence using the LZW coding algorithm ?
- (2) What is the dictionary in the end of the LZW coding ?

**EX3.** Give sequence

aabbba

What are the lower and higher bounds of the final interval in arithmetic coding?