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# CMPT 365 Multimedia Systems

## Programming Assignment 2

**Deadline 6:00pm, Apr 9, 2021**

**Note:** This assignment is NOT group based.

**Q. 1.** (LZW coding) Read a sequence that consists of letters A, B, and C only and assume that the initial dictionary is

0	A
1	B
2	C

- (1) Print out the output sequence for the input sequence using the LZW coding algorithm.
- (2) Print out the dictionary in the end of the LZW coding.

The length of the input sequence is no more than 64 letters.

**Q.2.** 2D (Discrete Cosine Transform) Read N (an integer between 2 and 10) and then an input matrix of size  $N \times N$ , print out the 2D DCT transform result (rounding to integers). See Slide 41 in Lossy compression for an example. Note that you can't call any lib to do this; you have to write your own code to implement the matrix operation.