Multimedia (Fall 2017, Sejong University)
Prof. S. M. Riazul Islam

Extension Assignment (EA) 1

1. Discuss the concept of Lempel–Ziv–Welch (LZW) compression and decompression technique with examples.

2. Implement the LZW compression and decompression technique in C or C++ as follows.

Compression Part

i) Take a string input (i.e., message) of 20 characters (Assume that the string contains only English alphabet "a" to "z"; do not use not capital letter "A" to "Z").
ii) The initial dictionary thus contains the codes of "a" to "z" as "1" to "26".
iii) Apply the LZW compression on the input string.
iv) The output of your program should provide the LZW encoded message.

Decompression Part

v) Take the output of the above program written for Compression Part and consider that as an LZW encoded message.
vi) The initial dictionary is the same as of Compression Part.
vii) Apply the LZW decompression on the input numbers.
viii) The output of your program should provide the original message.

NOTE: The code should be readable with suitable comments.

Instructions:

1. You should directly submit this EA to me in the class on or before November 14, 2017.
2. The assignment should be in printed form (Hardcopy).
3. No electronic file is required.
4. The assignment should have a cover page where you should mention the title of the assignment, student's name, and student number, and other relevant information as you design.
5. Deadline: November 13, 2017 (Monday).