Tutorial 12

1) **Huffman Coding**

   Build the Huffman Tree associated with $S = \text{abbeeeecede}$ and then give the encoding.

2) **Run Length Encoding with Elias Gamma**

   a) Encode the binary string 1111100000111100010000 using RLE with E_γ encoding for positive integers.

   b) Is it possible that the binary string 110001111101 was encoded using RLE with E_γ encoding for positive integers?

3) **LZW Encoding**

   a) Encode the following message using LZW encoding. (Just leave integers in base 10)

   $$\text{ABABBABABAABA}$$

   b) Go through the steps of decoding the message once it has been encoded.

4) **Burrows-Wheeler Transform**

   Performing the Burrows-Wheeler transform on S gives OOTRTON\$. What is S?