# Digital Communication - Summative Assessment

## Lempel-Ziv Compression

**Running time of the encoder**

How I determined what window sizes to use

Encoding txt files (with consistent window sizes for each one)

Encoding csv files (with consistent window sizes for each one)

One txt file, with worst input and best input (compare), then average (random different data)

\*\*Explain about the bits thing. i.e. each window has a number of bits it can occupy, so it increases in multiples of 2 (from the graph say that’s how i worked out best window size and lookahead for other files) (also mention how it’s pointless having the buffer larger than the window size)\*\*

**Running time of the decoder**

Decoding txt files from compression (constant window size)

Decoding csv files from compression (constant window size)

Decoding same size file with different window sizes

\*\*Discuss deciding between lastIndexOf and indexOf (compare between encode and decode runtime)

**Compression ratio**

(BAR CHART, PERCENTAGES ON ONE SIDE (Y), ORIGINAL FILE SIZE (X))

Compression ratio of txt files (from example in compression with consistent windows)

Compression ratio of txt files (with optimal window values)

Compression ratio of csv files (from example in compression with consistent windows)

Compression ratio of csv files (with optimal window values)

**Comparison with other techniques**