

Improving text compression by introducing reversed sequence of characters on lempel ziv welch (LZW) algorithm

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20439230&lokasi=lokal>

Abstrak

Data is of high importance especially for large companies. When data is abundant, some companies thus require a good software or an effective tool to compress the data. Data compression is the process of converting an input data stream into another data stream that has a smaller size. Data compression software is very useful because it can reduce the size of the data itself. The main idea of the LZW encoding is to identify the longest pattern for each accumulated segment of the source text, and encode them by the indices in the dictionary. If no match is found in the dictionary, the segment will become a new entry to the dictionary. There will be a match found in the dictionary if the same segment is seen next time. We put another check on the segment by adding a second index on a dictionary that represents a reversed sequence of characters. The experiment was conducted on text file with the size from about a 3,000 up to 60,000 Bytes and a code with length of bits from 9 to 16 bits. The results show that our proposed method gave fewer (better) compression ratio (16%, on average) compared to the standard LZW (56%) and LZW++ (36%)