

COMPRESSION - ZEROS GROUPING*

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1 Compression Algorithm

1.1 Zeros Grouping

The second part to our image framework is zeros grouping. Just like the JPEG standard, the algorithm utilizes a zig-zag pattern that goes through each DCT matrix and creates a 64-length vector for each matrix. The advantage of the zig-zag pattern is that it groups the resulting vector from low frequencies to high frequencies. Groups of zeros are then replaced with an ASCII character representing how many zeros are represented within that group.

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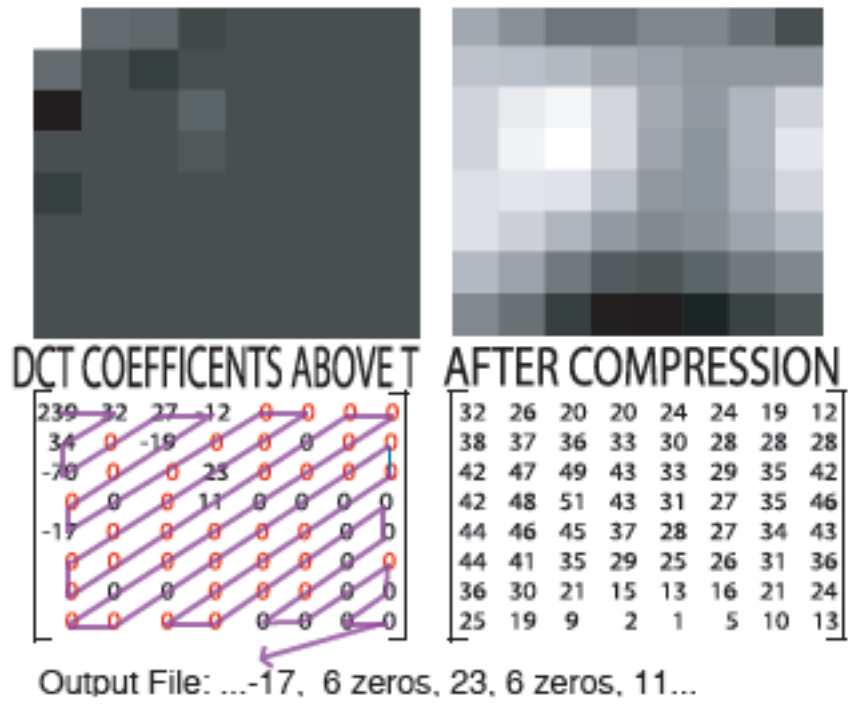


Figure 1: Zig-zag method traverses the matrix and vectorizes the matrix. After grouping zeros the resulting bitstream is sent to a file.

With this simple framework in place, we are able to model a real world image compression algorithm and focus on implementing steganography.