Digital Image Processing

Assignment Number 2
JPEG Compression

1. The following table displays the pixel intensity values of a macro block of a 1-dimensional image.

60	75	86	200	235	255	46	34

   a. Compute the DCT coefficients of this function.

   b. Compute the original function from the DCT using the IDCT algorithm.

   c. Ignore the last 4 bytes of the DCT and recomputed the original function. How much error is introduced in the image?

2. Generate the Huffman code of the all characters in the following string.

   ```
   Because I am bad, I am bad – come on – Bad Bad –
   really, really bad.  You know I am bad.
   ```

   Encode the string using Huffman codes. How much compression is achieved by using Huffman codes compared with ASCII?