**POC Lab Assignment- 5**

To run the program type the following command in the command window:

*[img, dimg, ent,a, prob, dict, code, ent1] = diff\_coding( );*

Explanation of the output:

img: contains the original image data in matrix form

dimg: contains the image data after differential coding has been applied to the imge.

ent: gives the entropy of the image after differential encoding has been applied

a: gives the unique elements of dimg

prob: gives the probability of various unique elements in dimg

code: provides the Huffman code for elements of a

ent1: gives the entropy of the original image

Entropy of image after applying differential coding comes out to be approximately equal to 3 for lena.pgm image. This is less than the figure given by sir (which was equal to 5) because a different method of taking difference has been applied.

‘data.dat’ is an intermediate file that is generated during the compression process and contains the bit sequence of the Huffman coded image after differential coding has been applied to it.

‘compressed.dat’ is the final output of the program which contains the compressed image data.