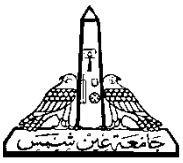

1. Solve the Q4 (of Sheet_01) but using MATLAB only.

2. Write a MATLAB code to construct an image of size 256 X 256. The intensity function is computed by the relation: $f(x,y) = \exp(-(x-128)^2-(y-128)^2)$. Normalize the intensity values such that the range of gray levels varies from 0 to 128. Visualize your resulting image.

3. Repeat Q2 for the image function, $f(x,y) = A\ cos(w_x x+w_y y)$. Give two different implementations, one with loops and the other one using the MATLAB vectorization technique. Compare between the execution times of the two methods.

4. Show by examples the use of the following image functions: imagesc, imshow, colorbar, and zoom.

5. Use the function ***rgb2gray*** with different color images to convert to gray scale images. You can use a mobile phone to capture the image you will use for the report.

6. Use the function ***imresize*** with different gray scale images to show how to change the size of an image. You must include results for stretching and shrinking images in different directions. Comment on the results.

7. Use the function ***imrotate*** with different gray scale images to show how to rotate an image.

8. Given a gray level image I, we need to decompose it into 8 image slices. The gray levels vary from 0 to 255. So, each pixel's intensity can be stored in one byte (8 bits). The MATLAB function ***dec2bin*** converts from decimal to binary representation. Write a MATLAB code to decompose a gray level image into 8 binary images by decomposing intensities into 8 binary values using the above function.
