Assign 1

1. Write a matlab code to quantize an image into 2, 4, and 8 level ie assigning pixels 1, 2 and 3 bits respectively.
   Use imquantize.
2. Write a matlab code to perform Translation, rotation and scaling. You should form the unified affine matrix which when applied to image performs the RST operation in the order translation, scaling and rotation. Parameters translation = 10 in both X- and Y- direction, rotation = .1 and scaling = 2 in both X- and Y- direction.
   - Use tform to generate affine matrix and then apply imwarp
   - Pot should show the entire image.
3. Realize the above operation using griddata.
4. Now apply only scaling to an image with X-scaling = 2.3, Y-scaling = 2. Use interp2 instead of griddate. (You wont be using imwarp in this case).
5. Perform image registration for the two images – reference image is 'reference6.jpg' and image to be registered is 'cameraman.tif'
   In the code uploaded on backpack-
   You need to read the two images first. Use cp2select for this.
   This will open a window with the reference and transformed images.
   Select 4 or 5 points which are clearly seen to be transformed, for example some corner points – point around the position of hand at handle. You can see that pixels suddenly go from black to white.
   Once you select points, export them by clicking on File→Export points to workspace.
   The selected points get saved as movingPoints and fixedPoints.
   Use cp2tform to get transformation matrix
   Use imwarp and transformation matrix/inverse transformation matrix as applicable to register the image.
6. Perform the log transformation on cameraman image. Chang the values of constant 'c' and report the observations.

You need to submit a pdf report including all images and the corresponding observations along with codes on backpack.

Deadline: Friday, 19th aug.