**INDEX**

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| ***Q.No.*** | ***Question*** | ***P.No.*** |
| 1 | Take a color image/photo/picture:   1. Convert color image to gray image (without using inbuilt function) and display them both using subplot. 2. Convert the result of (i) into binary image (without using inbuilt function) and display all three images (Color, Gray, Binary) using subplot. | 4 |
| 2 | Working with Color images: Create a pure Red Rectangle image using any software (MS Word/MS PPT/ MS paint/Adobe Photoshop/…). Note that pure red, we mean, when we open the image with our Python/MATLAB, we should see all the pixel values in Red channel as 255.   1. Change the given pure Red rectangle image to pure Blue rectangle and display both the original and processed image using subplot. 2. Change the given pure Red rectangle image to pure Yellow, Cyan and Magenta and rectangle and display all the four images (Original and the three processed images) using subplot. |  |
| 3 | Read the data from Lincon and Monalisa text files and display the images and convert them to binary images by using different methods. (i.e. threshold as: avg, (min+max)/2, etc ) |  |
| 4 | ***Image Negatives***: Figure 3.4 |  |
| 5 | ***Log Transformations***: Figure 3.5 |  |
| 6 | ***Power-Law (Gamma) Transformations***: Figure 3.8 |  |
| 7 | ***Power-Law (Gamma) Transformations***: Figure 3.9 |  |
| 8 | ***Contrast stretching***: Figure 3.10 |  |
| 9 | ***Intensity-level slicing***: Figure 3.12 |  |
| 10 | ***Bit-plane slicing***: Figure 3.14 |  |
| 11 | ***Image Reconstruction form Bit-planes***: Figure 3.15 |  |
| 12 | ***Displaying the image and its histogram***: Figure 3.16 |  |
| 13 | ***Histogram Equalization***: Figure 3.20 |  |
| 14 | ***Histogram Matching (Specification)***: Figure 3.23, 3.24 and 3.25 |  |
| 15 | ***Local Histogram Equalization***: Figure 3.26 |  |
| 16 | ***Using Histogram Statistics for Image Enhancement***: Figure 3.27 |  |
| 17 | ***Image Smoothing***: Figure 3.33 |  |
| 18 | ***Image Smoothing and thresholding***: Figure 3.34 |  |
| 19 | ***Averaging and Median Filter***: Figure 3.35 |  |
| 20 | ***Image Sharpening***: Figure 3.38 |  |
| 21 | ***High boost filtering***: Figure 3.40 |  |
| 22 | ***Sobel Gradient***: Figure 3.42 |  |
| 23 | ***Combining Spatial Enhancement Methods***: Figure 3.43 |  |
| 24 | ***Fuzzy rule-based contrast enhancement***: Figure 3.54 |  |
| 25 | ***Intensity Resolution:***  Write a computer program capable of reducing the number of intensity levels in an image from 256 to 2, in integer powers of 2. The desired number of intensity levels needs to be a variable input to your program. Download Fig. 2.21(a) from the book web site and duplicate the results shown in Fig. 2.21 of the book. |  |
| 26 | ***Spatial (Pixel) Resolution: (Figure 2.20 and Figure 2.24)***  Interpolation for Zooming of an image as per the user’s choice of zooming factor.   1. Nearest neighbor 2. Bilinear 3. Bicubic |  |
| 27 | ***Spatial (Pixel) Resolution: (Figure 2.20 and Figure 2.24)***  Interpolation for Shrinking an image as per the user’s choice of shrinking factor.   1. Nearest neighbor 2. Bilinear 3. Bicubic |  |