Long Hour Coding on MATLAB   (Image Processing):

NO.	TASK
1.	Study different MATLAB commands for image processing.
2	Write a MATLAB code that will do the following. 1. Read any gray scale image. 2. Display that image. 3. Display the histogram of the image.
3	Take any gray scale image and Write a MATLAB code to perform the following Gray level Transformation on image. In each case,show original image, resultant image,and histogram of both 　i) Identity Image 　ii) Image Negative
4	(A) Write a MATLAB code for read any color image and convert into grayscale image. (B) Convert grayscale image into binary image (Black & White). (C) Again convert the grayscale image such that the pixels having intensity values below than 50 will display as black and pixels having intensity values above than 150 will display as white. And the pixels between these will display as it is. Also draw the histogram of original and processed.
5	(A) Take any Gray-scale image and Write MATLAB code to rotate the image with 　i) 90 angle 　ii) 180 angle 　iii) 270 angle using function & without using function. (B) Write a MATLAB code that reads a gray scale image and generates the Horizontal and Vertical flipped image (Mirror image) of original image.
6	Take any Gray-scale Image and Write MATLAB code to crop the image i.e. resultant image contains only portion of an original image.
7	Write a MATLAB code that compute histogram of a gray scale using function & without using Function
8	Take any Grayscale image and write MATLAB code to Perform the Bit-plane slicing operation on the image. Show the Original image and processed image with histogram.
9	Take a Grayscale image with 256x256 resolution and write a MATLAB code to change the size of an image to 　i) 32x32　　ii) 64x64　　iii) 128x128　　iv) 512x512　　v) 1024x1024
10	(A) Take any image and Write a MATLAB code to implement **smoothening** spatial filter (Low pass filter) and note the effects on given image. (B) Write a MATLAB code to implement **Sharpening** (High pass filter) and note the effect on given image.
11	Take any image and Write a MATLAB code to implement following order statistics filters and write down your observations. 　　i)　　Max filter 　　ii)　　Min filter 　　iii)　　Median filter
12	Write a MATLAB code to convert RGB image into grayscale image without using function.

Long Hour Coding on MATLAB: (Speech Processing)

NO.	TASK
13.	Convert one song in to wav file using any software or online Write a MATLAB code to make a ringtone.
14	Write a MATLAB code to implement the speed variation of the sound file.
15	Take a two stereophonic sound file. Write a MATLAB code to combine both sound file in single sound file but on a separate channel.
16	Generate various Echo signal using echo equation. y(n)=x(n)+(0.25*d1(n))+(0.125*d2(n))+(0.0625*d3(n));

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