Image Editing Document

Technical Documentation

Gray	Use the formula I = 0.3*R+0.59*G+0.11*B to convert the images into grayscale
Quant-unif	Convert the image from 24 bit(R : 8 bit , G : 8 bit , B : 8 bit) to 8 bit (R : 3 bit , G : 3 bit , B : 2 bit) by fetching the most significant bit of corresponding bit they need
Quant-pop	Find the top 256 popular colors and we can find the closest color for each of pixel in image in popular colors by the formula sqrt((r1-r2)^2 + (g1-g2)^2 + (b1-b2)^2)
Dither-thresh	Firstly, convert the image into grayscale and if the value of each pixel is under the value(0-1) 0.5, then making it black(0), otherwise making it white(1)
Dither-bright	Firstly, convert the image into grayscale and choosing the threshold by calculating the brightness
Dither-rand	Firstly, convert the image into grayscale and adding the random value -0.2-0.2 to each color channel if the value bigger than 0.5, then making it black(0), otherwise making it white(1)

Dither-cluster	Firstly, convert the image into grayscale and using the 4 X 4 mask matrix as threshold, if I[x][y] >= mask [x%4][y%4], , then making it white(1), otherwise making it black(0)
Dither-fs	Firstly, convert the image into grayscale and each pixel will propagate the proportion of error value(origin value – new value to each unprocessed neighbor
Dither-color	Set color map by dividing 8 bit (R : 3 bit , G : 3 bit , B : 2 bit) and dithering the color channel separately with Floyd-Steinberg Dithering
Filter-box	Use the specific 5 X 5 matrix as filter and assembling the proportion of neighbor region value
Filter-bartlett	Use the specific 5 X 5 matrix as filter and assembling the proportion of neighbor region value
Filter-gauss	Use the specific 5 X 5 matrix as filter and assembling the proportion of neighbor region value
Half	Use the specific 3 X 3 matrix as filter. Send the (i, j) pixel to (i / 2, j / 2)
Double	Use the specific 3 X 3, 4 X 3, 4 X 4 matrix as filter, under the condition i and j are odd, i xor j is odd and I and j are both even separately. Send the (i, j) pixel to (i * 2, j * 2)

Manipulation

1. Execute the imageEditing.exe and input [load "*.pla"] and you can load the image you want to process

2. According the effect you eager to, type the command listed above.