

Images Practice Questions(Seed MTH 208A)

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Instruction: Set 20 min timer for each of the questions below , and then copy paste the code in the github repository.

Q1: Find least green , blue , red colour in the image and replace it by red , green , blue respectively in two ways . Then bench mark it . Is the time dependent on colour?

Q2: Rotate the image 180 degrees anticlockwise. Plot the two images one below the other . Where do you find such images?

Q3: Find the mirror reflection of given image , keep them side by side!

Q4: Cut the image in two vertical halves , and swap them . Now plot side by side.

Q5: Cut the image into two horizontal halves and swap them . Now plot them one below the other.

Q6: Convert the given image to 600 X 600 image. Cut it diagonally.

Q7: In the given image , find out the purest colour "fcol" and replace it by given "rcol". Do this by :

A) Without using for loops

B) With for loops

Q8: In the given image , find out the least pure colour "fcol" and replace it by given "rcol". Do this by :

A) Without using for loops

B) With for loops

Q9: Find number of pixels which are close to given colour : ie $norm(x - col) \leq 0.5$, where x is the colour vector of array .

Q10: Expand the small image : back to its normal size image A) 60 X 60 to 600 X 600

B) 300 X 300 to 600 X 600

C) n X n to 600 X 600

Q11: Compress 600 X 600 image to n X n size image

Q12: Rotate (once again , it's a drill!) the image in : A) 90 deg clockwise

B) 90 deg anticlockwise

C) 180 deg