Image Processing
Home work 04
Blure Image

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The code used for this task :

```
import cv2
import numpy as np
from math import pow


def showimg(img):
  cv2.namedWindow("test", cv2.WINDOW_NORMAL)
  img = np.array(img,dtype=float)/float(255)
  cv2.imshow('test',img)
  cv2.resizeWindow('test',600,600)
  cv2.waitKey(0)

def readimg(name):
  return cv2.imread(name,0)

#Read The image
mypic = readimg('mypicture.jpg')
resized = cv2.resize(mypic,(512,512),interpolation=cv2.INTER_LANCZOS4)
cv2.imwrite('mypicture_resized.jpg',resized )
for i in range(4,10):
  limit =  int(pow(2,i))
  imagetoresize = np.copy(resized)
  imagetoresize[0:limit,0:limit] = cv2.GaussianBlur(resized[0:limit,0:limit],(5,5),30)
  cv2.imwrite('blurred_piece_by_piece'+str(limit)+'.jpg',imagetoresize)

```

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The original picture :

Fig. 1: Original picture (429X592)

Fig. 2: Image after resizing (512X512) using lanczos 4 Scaled 0.9 to fit Page

Fig. 3: Only top left 16X16 blurred

Fig. 4: Only top left 32X32 blurred

Fig. 5: Only top left 64X64 blurred

Fig. 6: Only top left 128X128 blurred

Fig. 7: Only top left 256X256 blurred

Fig. 8: Only top left 512X512 blurred

Note: The home work files,images,python code etc.. exist at github