

201710758\_김진성 HW10

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In [1]: import numpy as np
import matplotlib.pyplot as plt
import matplotlib as mpl
import skimage
from skimage import data
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In [2]: def display_image_in_actual_size(im):

    dpi = mpl.rcParams['figure.dpi']
    height, width= im.shape
    figsize = width / float(dpi), height / float(dpi)
    fig = plt.figure(figsize=figsize)
    ax = fig.add_axes([0, 0, 1, 1])
    ax.axis('off')
    ax.imshow(im, cmap='gray')

    plt.show()
```

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In [3]: def my_imresize(img,scale):
    (x,y)=img.shape
    oi = img.copy()
    inv_scale = 1/scale
    (ix, iy)= (int(x*scale), int(y*scale))
    int_image=np.zeros((ix, iy), dtype="uint8")

    for i in np.arange(ix-1):
        row = i*inv_scale
        irow = int(row)
        a = row - irow
        for j in np.arange(iy-1):
            col = j*inv_scale
            icol = int(col)
            b = col - icol

            if (icol+1!=y and irow+1!=x):
                int_image[i, j] = (oi[irow,icol]*(1-a)*(1-b) + oi[irow,icol+1]*a*(1-b) + oi[irow+1,icol]*(1-a)*b +
oi[irow+1,icol+1]*a*b).astype("uint8")

        display_image_in_actual_size(int_image)
```

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In [4]: cam = data.camera()
my_imresize(cam,0.668)
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In [5]: my_imresize(cam,2.9)
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