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Computer Vision Homework 1

Part A

Description

I use Python Image Library to do image I/O. When I get image raw pixel data I do these computing.

- upside-down: revert pixlel in y coordinate by [ImageHeight -Y]
- right-side-left: revert pixlel in x coordinate by [ImageHeight -X]
- diagonally mirrored: switch x coordinate and y coordinate

How to run it

```
python image.py lena.bmp
```

Principal code fragment

```
for x in range(0, imageW):
    for y in range(0, imageH):
        originalPixel = im.getpixel((x,y))
        rightsideLeftPixel[ imageW-1 - x, y ] = originalPixel
        upsideDownPixel[ x, imageH-1 - y ] = originalPixel
        diagonallyPixel[ y, x ] = originalPixel
```

Part B

rotate lena.im 45 degrees clockwise

In Photoshop, Select Image > Image rotate.
Show the panel of image rotation to rotate the image.
Click clockwise and rotate 45 degree and confirm.

shrink lena.im in half

In Photoshop, Select Image > Image size.
Show the panel of image size to shrink the image.
Enter new small size and confirm.

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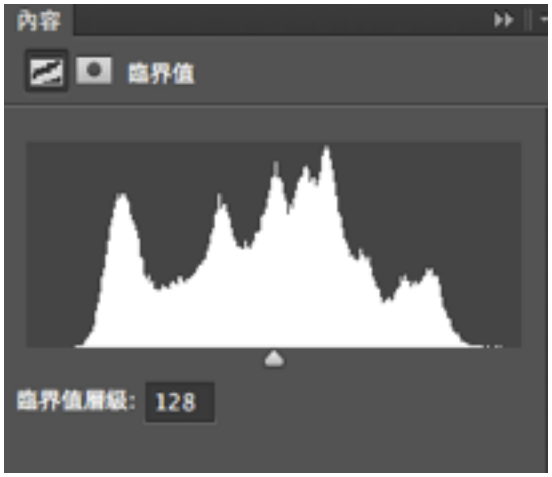
binarize lena.im at 128 to get a binary image



In Photoshop, Select threshold and enter 128 as threshold amount.