Computer Vision HW1

資工所 R08922156 黃劍韜

Part1


```python
def upside2down(image,width,height):
    img_result = image.copy()
    for i in range(width):
        img_result[i,:] = image[width-i-1,:]
    save_image('Upside-down',img_result)
    return img_result
```

(a) Upside-down


```python
def right2left(image,width,height):
    img_result = image.copy()
    for i in range(height):
        img_result[:,i] = image[:,height-i-1]
    save_image('Right-side-left',img_result)
    return img_result
```

(b) Right-side-left


```python
def diagonally_flip(image,width,height):
    img_result = image.copy()
    for i in range(width):
        for j in range(height):
            img_result[j,i] = image[i,j]
    save_image('Diagonally-flip',img_result)
    return img_result
```
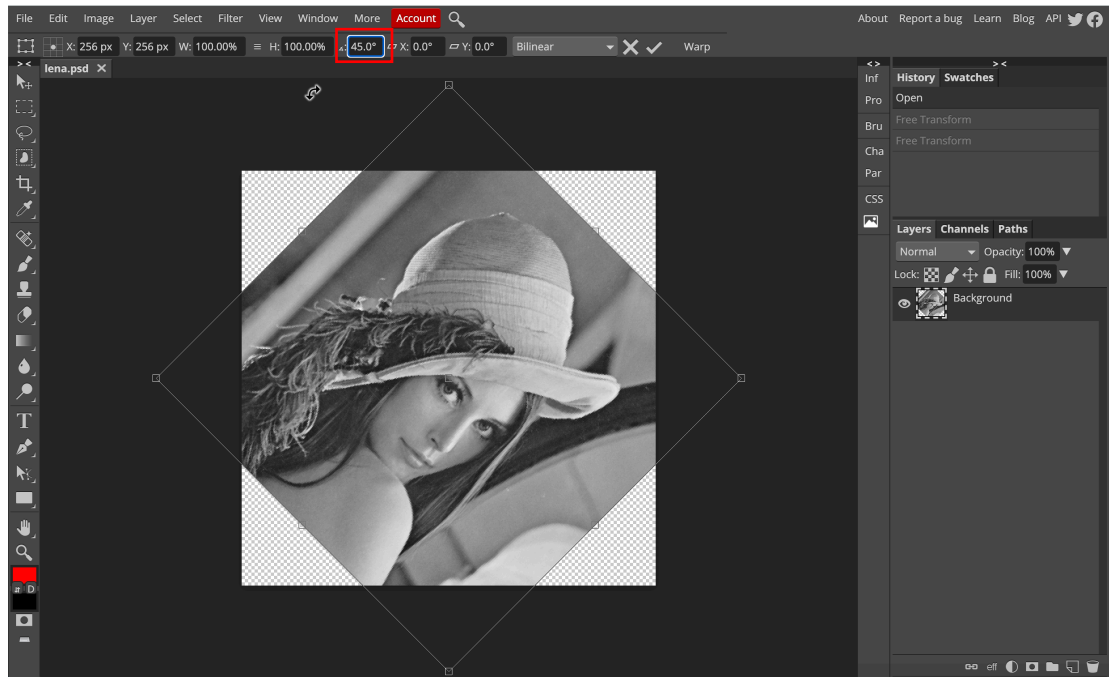
(c) Diagonally flip

Part2

我使用的是線上的一款線上 PS 工具叫做 Photopea，在瀏覽器上面就可以對圖像做處理。網址如下：https://www.photopea.com/
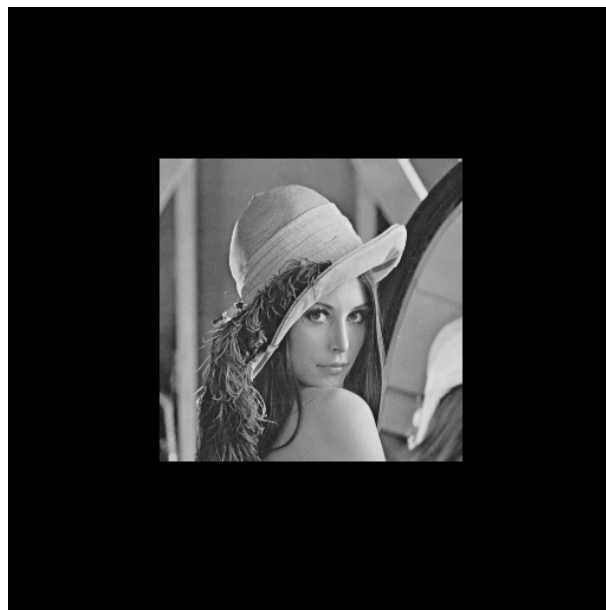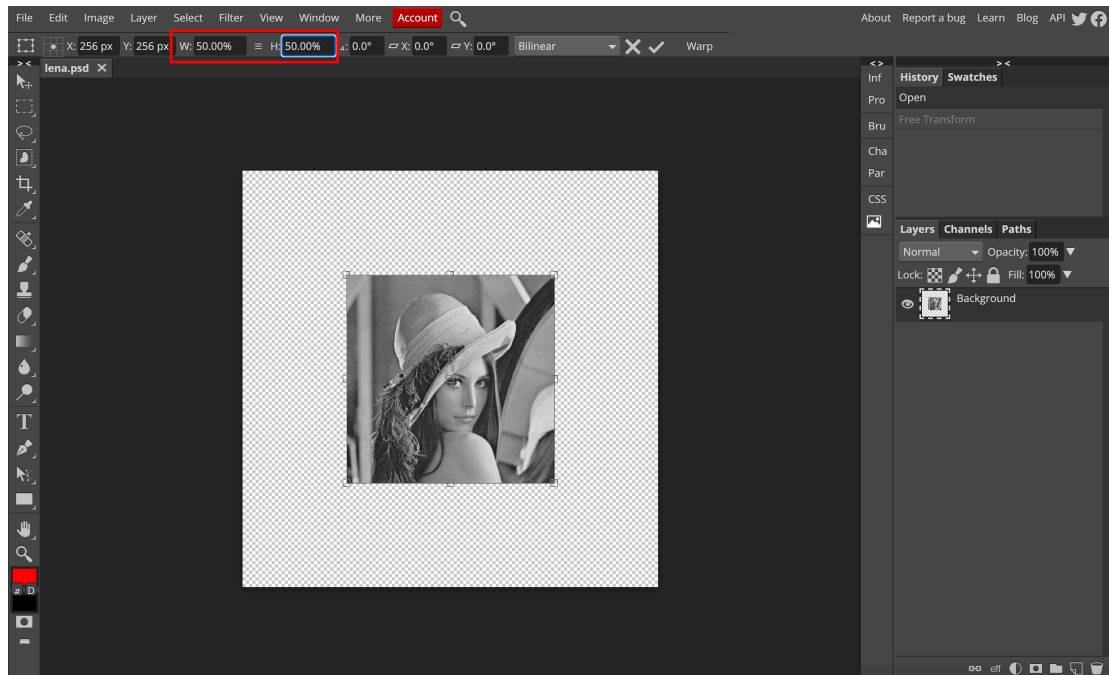
(d) Rotate lena.bmp 45 degrees clockwise
選擇 Edit/Transform/Rotate 將旋轉角度設定為 45 度

(e) Shrink lena.bmp in half

選擇 Edit/Transform/Scale 將長寬都設定為 50%

選擇 Edit/Transform/Scale 將長寬設定為 50%

(f) Binarize lena.bmp at 128 to get a binary image

選擇 Image/Adjustments/Threshold 設定為 128

選擇 Image/Adjustments/Threshold 設定為 128