Pillow 기본 명령어 활용

I3주차_0I_02

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학습목표

- Pillow 다양한 기능 익히기
- Pillow 다양한 기능 활용하기

Blending and writing a file


```
from PIL import Image

try:
    im = Image.open("flower04.jpg")
    im01 = Image.open("flower05.jpg")

except IOError as err:
    print("unable to load image")

#blend
im_bl=Image.blend(im, im01, 0.5)

im_bl.show()

im_bl.save('im_blend.jpg')
```

2개 파일의 모드와
픽셀 크기가 동일해야 한다
3번째 값은 2개 파일
블렌드 되는 정도

Cutting, transposing, pasting I


```
from PIL import Image

try:
    img = Image.open("./handong.jpg")

except IOError as err:
     print("파일을 열 수 없습니다.")

img.show()

crop_img = img.crop((50,50,200,200))
crop_img.show()
```

Cutting, transposing, pasting 2

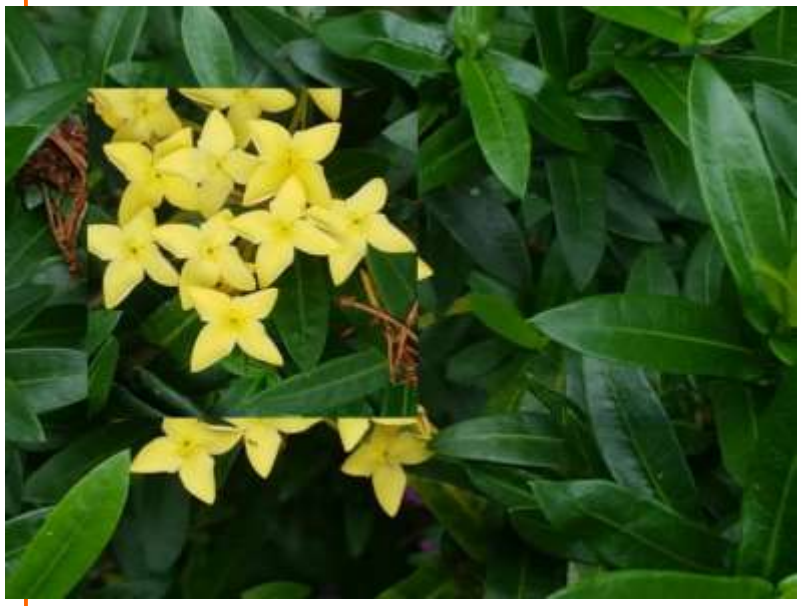

```
from PIL import Image

try:
    img = Image.open("./handong.jpg")

except IOError as err:
    print("파일을 열 수 없습니다.")


trans_img = img.transpose(Image.ROTATE_90)
trans_img.show()
```

Cutting, transposing, pasting 3


```
from PIL import Image

try:
    img1 = Image.open("./handong.jpg")
    img2 = Image.open("./dog.jpg")

except IOError as err:
    print("파일을 열 수 없습니다.")

Image.paste(img1, img2, (50, 125))
img1.show()
```

Cutting, transposing, pasting 4


```
from PIL import Image

try:
    im = Image.open("flower04.jpg")
except IOError as err:
    print("unable to load image")

# crop, tranpose, paste
box1 = (100,100,500,500)
region1 = im.crop(box1)

region1 = region1.transpose(Image.ROTATE_180)
im.paste(region1, box1)

im.show()
```



Color transforms I


```
from PIL import Image

try:
    im01 = Image.open("flower05.jpg")
except IOError as err:
    print("unable to load image")

im01.show()

im_L = im01.convert("L")
im_L.show()

im_R = im01.convert("1")
im_R.show()
```

Color transforms 2


```
from PIL import Image

try:
    img1 = Image.open("./dog.jpg")

except IOError as err:
    print("unable to load image")

convert_img1 = img1.convert('L')
convert_img2 = img1.convert('RGB')

convert_img1.show()
convert_img2.show()
```

Access pixel


```
# show RGB value on a point

from PIL import Image
try:
    im = Image.open("flower05.jpg")
except IOError as err:
    print("unable to load image")

print(im.size)
px = im.load()
print ('px[200,100] = ', px[200,100])

px[200,100] = (0,0,0)
print ('px[200,100] = (0, 0, 0) -->', px[200,100])

im.show()
```

```
>>>
(960, 720)
px[200,100] =  (13, 27, 10)
px[200,100] = (0, 0, 0) --> (0, 0, 0)
>>>
```

ImageEnhance Module(1)


```
from PIL import Image, ImageEnhance

try:
    im01 = Image.open("flower01.jpg")
except IOError as err:
    print("unable to load image")

enhancer = ImageEnhance.Sharpness(im01)

factor = 1 / 4.0
enhancer.enhance(factor).show("Sharpness", factor)
```

ImageEnhance Module(2)

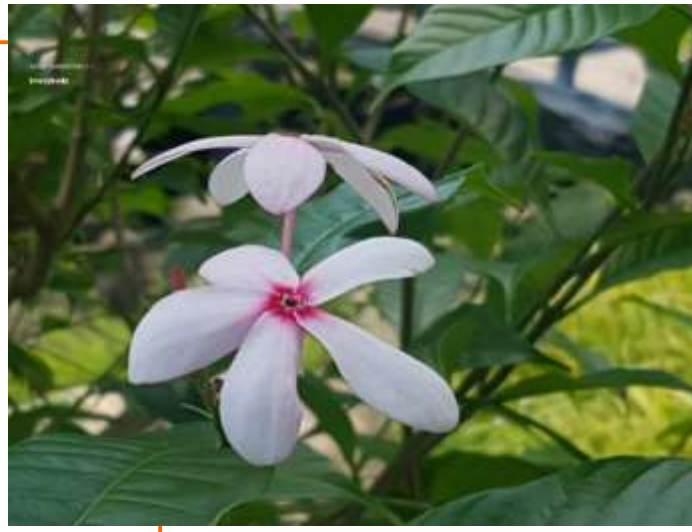

```
from PIL import Image
from PIL import ImageEnhance

try:
    img = Image.open("./handong.jpg")

except IOError as err:
    print("unable to load image")

enhance_img = ImageEnhance.Brightness(img)
enhance_img.enhance(2).show()
```

ImageDraw Module(I)


```
from PIL import Image, ImageDraw

try:
    im01 = Image.open("flower02.jpg")
except IOError as err:
    print("unable to load image")

draw = ImageDraw.Draw(im01)

draw.line((0, 0) + im01.size, fill=128)
draw.line((0, im01.size[1], im01.size[0], 0), fill=128)

draw.text((100, 100), "Beautiful FLOWER!!!!", fill=0)

im01.show()
```

ImageDraw Module(2)


```
from PIL import Image, ImageDraw
try:
    base = Image.open("flower01.jpg").convert('RGBA')
except IOError as err:
    print("unable to load image")

txt = Image.new('RGBA', base.size, (255,255,255,0))
d = ImageDraw.Draw(txt)

# draw text, half opacity
d.text((30, 80), "GOOD MORNING!!!", fill=(255,255,255,128))

# draw text, full opacity
d.text((30, 100), "Everybody", fill=(255,255,255,255))

out = Image.alpha_composite(base, txt)
out.show()
```

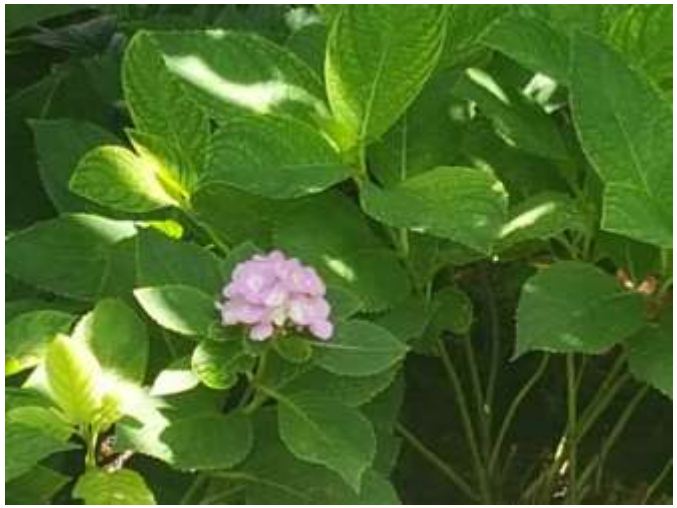


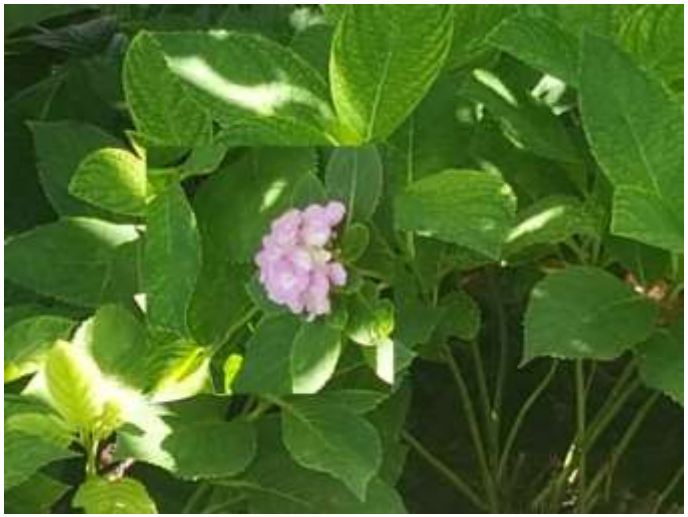
연습문제 I

- 좋아하는 사진을 open 한다
- Crop 기능을 활용하여 사진의 일부를 90도 돌린다
- 사진을 합쳐서 출력한다

연습문제 I 코드


```
from PIL import Image

try:
    im = Image.open("flower06.jpg")
except IOError as err:
    print("unable to load image")

im.show()
box1 = (200,200,550,550)
region1 = im.crop(box1)

region1 = region1.transpose(Image.ROTATE_90)
im.paste(region1, box1)

im.show()
```





강의 요약

- Pillow 명령어 활용
  - .blend()
  - .transpose()
  - .convert()
  - .Sharpness()
  - .crop()
  - .line()
  - .text()

목표 달성 질문

- 이미지를 열어서 그림 내에 일정한 텍스트를 쓰려면 어떤 명령어를 사용해야 하는지 기술하시오
- 이미지를 열어서 그림 내에 일정한 공간을 잘라내는데 어떤 명령어를 사용하는가?

감사합니다