

Image Processing

1. Blue filter on your picture

```
from PIL import Image
import random

pic = Image.open('butterfly.jpg')

#get the size of the picture
[width, height] = pic.size
pixels = pic.load()

for x in range(width):
    for y in range(height):
        (r, g, b) = pixels[x, y]
        pixels[x, y] = (0, 0, b)

pic.save('newPic.jpg')
```

2. Salt and Pepper on your picture

```
from PIL import Image
import random

pic = Image.open('butterfly.jpg')

#get the size of the picture
[width, height] = pic.size
pixels = pic.load()

for x in range(width):
    for y in range(height):
        (r, g, b) = pixels[x, y]
        noise = random.randint(-20, 20)
        pixels[x, y] = (r + noise, g+noise, b+noise)

pic.save('newPic.jpg')
```

3. Steganography Introduction
