

```
1 from PIL import Image
2 import numpy as np
3
4 im = Image.open("Lenna.jpg")
5 print(im.format)
6 print(im.size)
7 print(im.mode)
8
9
10 arr = np.array(im.copy())
11 print(type(arr))
12 print(arr.shape)
13
14 arrRed = arr.copy()
15 arrGreen = arr.copy()
16 arrBlue = arr.copy()
17
18
19 for y in range(arr.shape[0]):
20     for x in range(arr.shape[1]):
21         arrRed[y,x] = [arr[y,x,0],0,0]
22         arrGreen[y,x] = [0,arr[y,x,1],0]
23         arrBlue[y,x] = [0,0,arr[y,x,2]]
24
25
26 im2 = Image.fromarray(arrRed)
27 im3 = Image.fromarray(arrGreen)
28 im4 = Image.fromarray(arrBlue)
29 Image.fromarray(np.hstack((np.array(im),np.array(im2),np.array(im3),np.array(im4)))).show()
```