

```
In [1]: import numpy as np
```

```
In [2]: ones_arr = np.ones((3,3))
```

```
In [3]: ones_arr
```

```
Out[3]: array([[1., 1., 1.],
   [1., 1., 1.],
   [1., 1., 1.]])
```

```
In [4]: ones_arr = np.ones((5,5), dtype=int)
ones_arr
```

```
Out[4]: array([[1, 1, 1, 1, 1],
   [1, 1, 1, 1, 1],
   [1, 1, 1, 1, 1],
   [1, 1, 1, 1, 1],
   [1, 1, 1, 1, 1]])
```

```
In [5]: ones_arr*255
```

```
Out[5]: array([[255, 255, 255, 255, 255],
   [255, 255, 255, 255, 255],
   [255, 255, 255, 255, 255],
   [255, 255, 255, 255, 255],
   [255, 255, 255, 255, 255]])
```

```
In [6]: import matplotlib.pyplot as plt
```

```
In [7]: %matplotlib inline
```

```
In [8]: from PIL import Image
```

```
In [9]: horse_img = Image.open(r'C:\Users\admin\Desktop\PIL project\Hourse Image.jpg')
```

```
In [10]: horse_img
```

Out[10]:

In [11]: `type(horse_img)`Out[11]: `PIL.JpegImagePlugin.JpegImageFile`In [12]: `horse_arr = np.asarray(horse_img)`In [13]: `horse_arr`

```
Out[13]: array([[[15, 17, 29],
   [15, 17, 29],
   [15, 17, 29],
   ...,
   [25, 37, 35],
   [19, 34, 31],
   [14, 30, 27]],

   [[15, 17, 29],
   [15, 17, 29],
   [15, 17, 29],
   ...,
   [26, 38, 36],
   [22, 37, 34],
   [20, 36, 33]],

   [[15, 17, 29],
   [15, 17, 29],
   [15, 17, 29],
   ...,
   [28, 40, 38],
   [25, 40, 37],
   [24, 40, 37]],

   ...,

   [[49, 50, 44],
   [40, 41, 35],
   [35, 35, 27],
   ...,
   [14, 30, 29],
   [13, 25, 25],
   [12, 22, 23]],

   [[45, 50, 44],
   [38, 43, 37],
   [31, 36, 30],
   ...,
   [11, 25, 25],
   [12, 24, 24],
   [16, 26, 27]],

   [[31, 41, 33],
   [31, 41, 33],
   [32, 39, 32],
   ...,
   [14, 26, 26],
   [16, 26, 27],
   [23, 31, 33]]], dtype=uint8)
```

```
In [14]: horse_arr.shape
```

```
Out[14]: (2334, 3502, 3)
```

```
In [15]: plt.imshow(horse_arr)
```

```
Out[15]: <matplotlib.image.AxesImage at 0x266e0f41430>
```



```
In [16]: horse_red = horse_arr.copy()
```

```
In [17]: horse_red
```