introduction-to-data

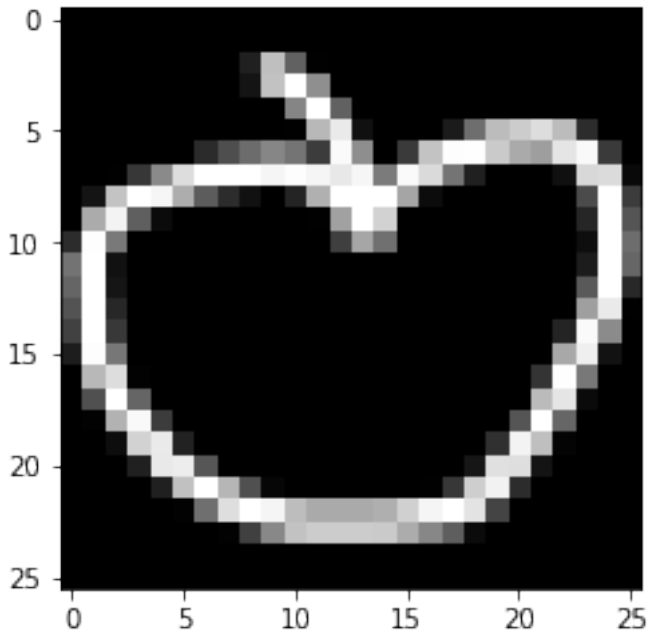
November 6, 2017

In [1]:
```
%matplotlib inline
import matplotlib.pyplot as plt
import numpy as np
```

In [2]:
```
images=np.load('data/images.npy')
labels=np.load('data/labels.npy')
```

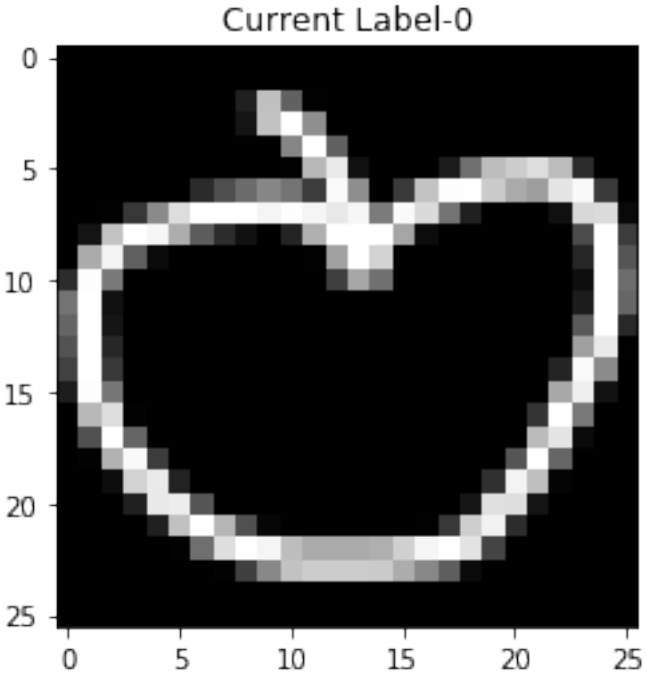
In [3]:
```
# print (class_zero.shape)
class_zero=images[labels==0]
plt.imshow(class_zero[0],cmap='gray')
```

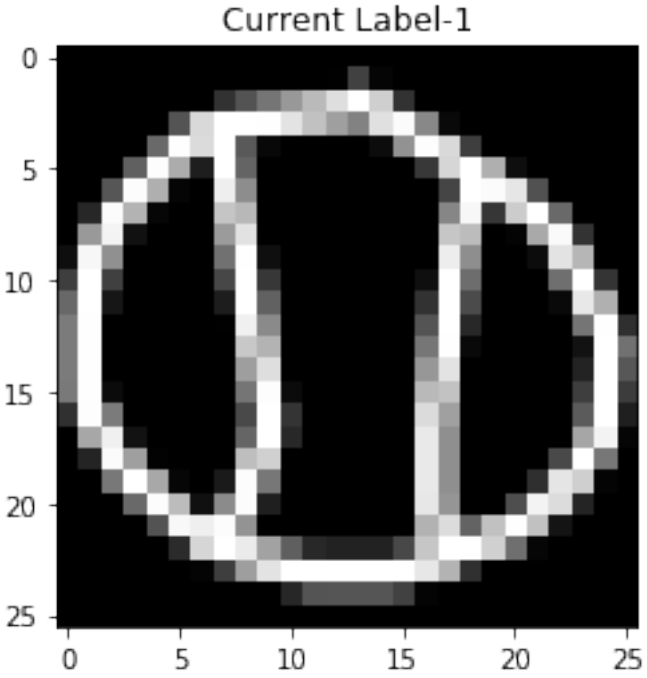
Out[3]:
```
<matplotlib.image.AxesImage at 0x119d79a90>
```

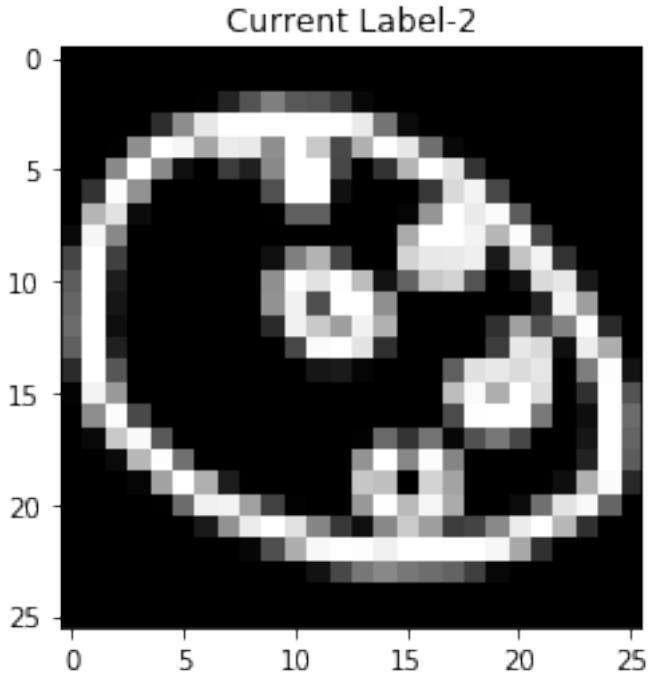


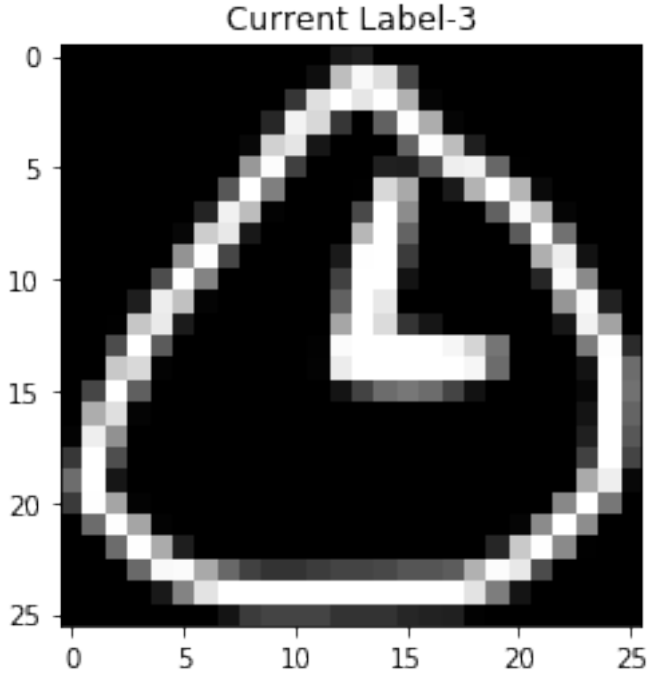
In [4]:
```
image_list={}
images_show=[]
labels_list=[0,1,2,3,4]
```

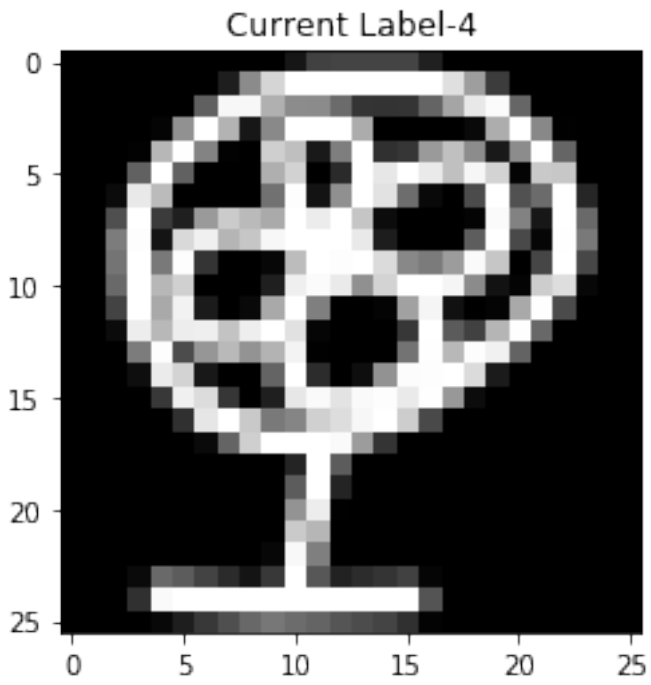
```
for label in labels_list:
    image_list[label]=images[labels==label]
    plt.figure()
    plt.title("Current Label-"+str(label))
    plt.imshow(image_list[label][0],cmap='gray')
```






Current Label-2
0
5
10
15
20
25
0
5
10
15
20
25


Current Label-3
0
5
10
15
20
25
0
5
10
15
20
25



1 Associated Labels

- Label 0-Apple
- Label 1-Baseball
- Label 2-Coockie
- Label 3-Clock
- Label 4-Fan

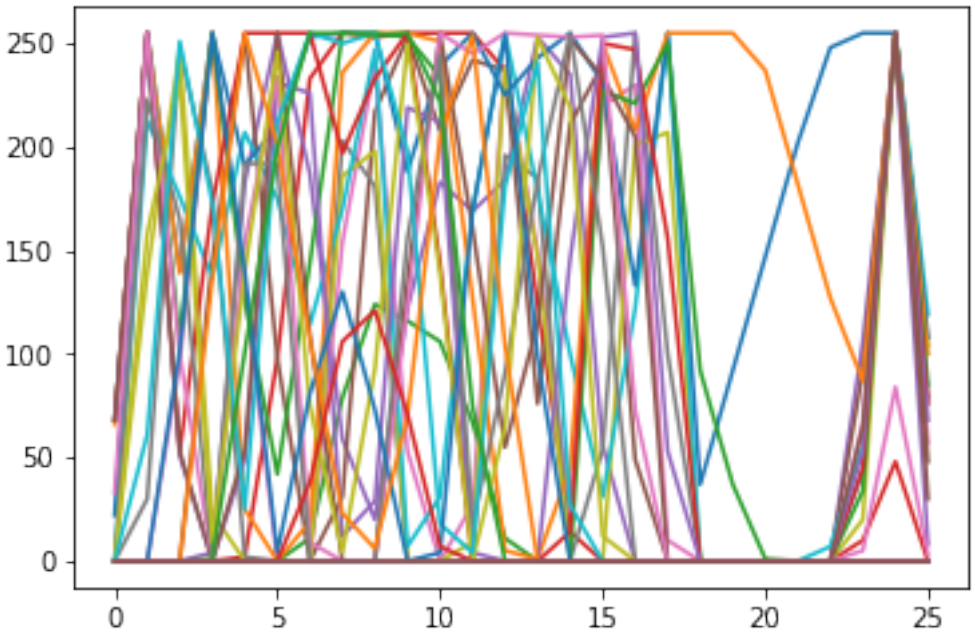
2 Flattening images

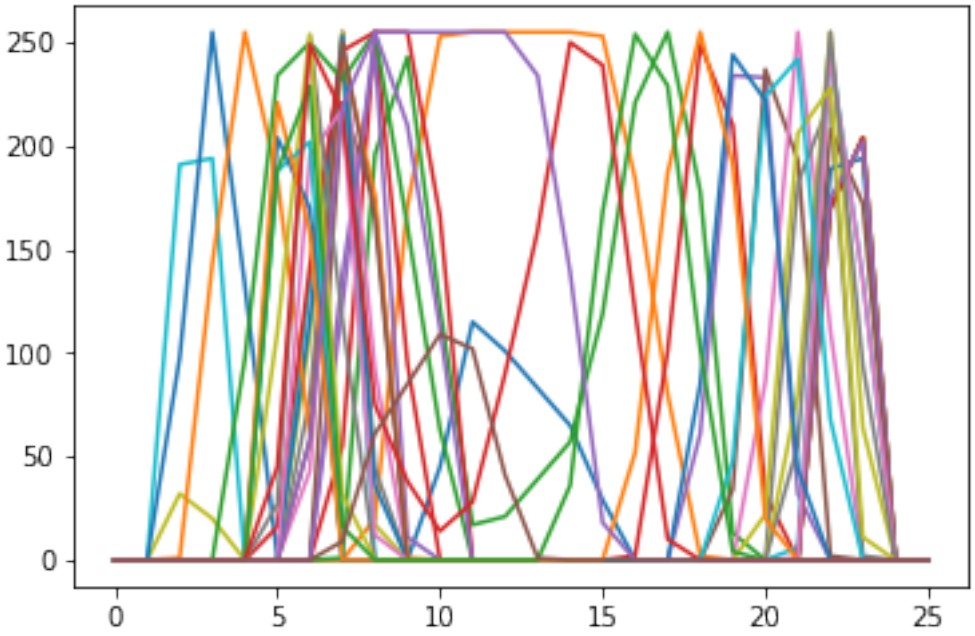
```
In [5]: print(images.shape)
        shape_images_flat=(images.shape[0],images.shape[1]*images.shape[2])
        images_flat=np.ndarray(shape=shape_images_flat)
        for index in range(len(images)):
            images_flat[index]=images[index].flat
        print (images_flat.shape)
```

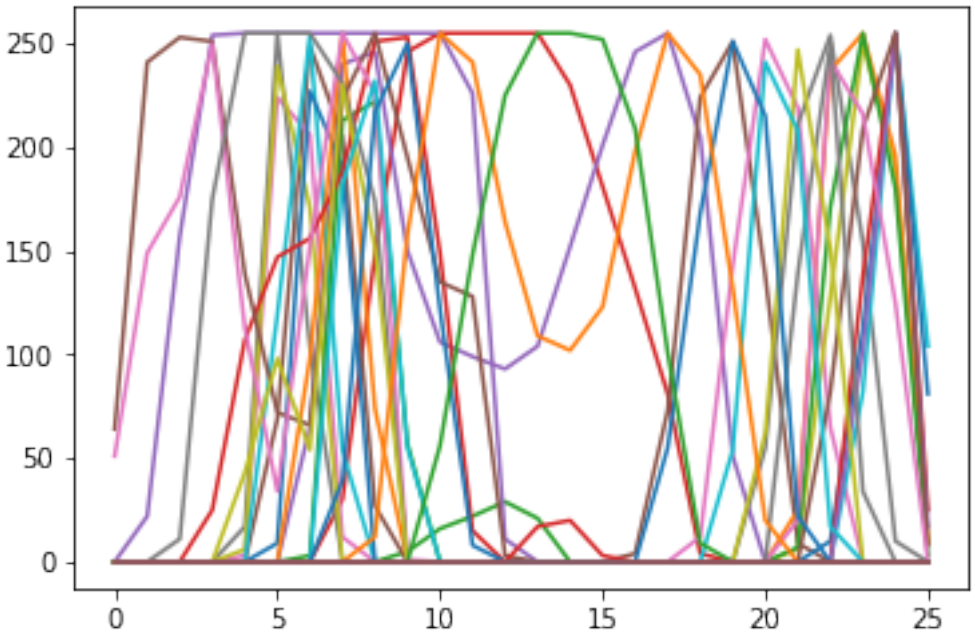
```
(50000, 26, 26)
(50000, 676)
```

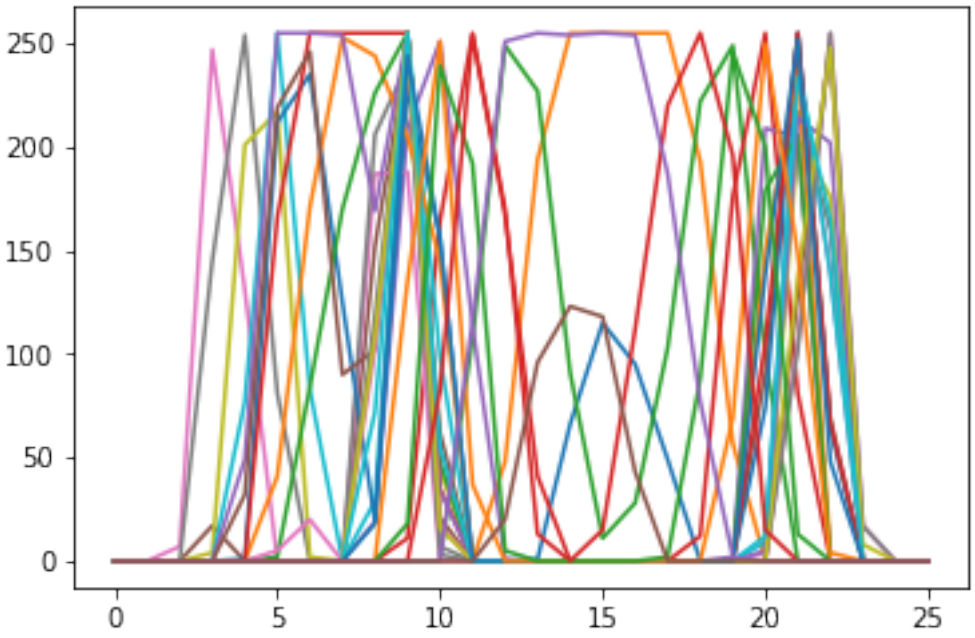
3 Printing first 5 flattened images

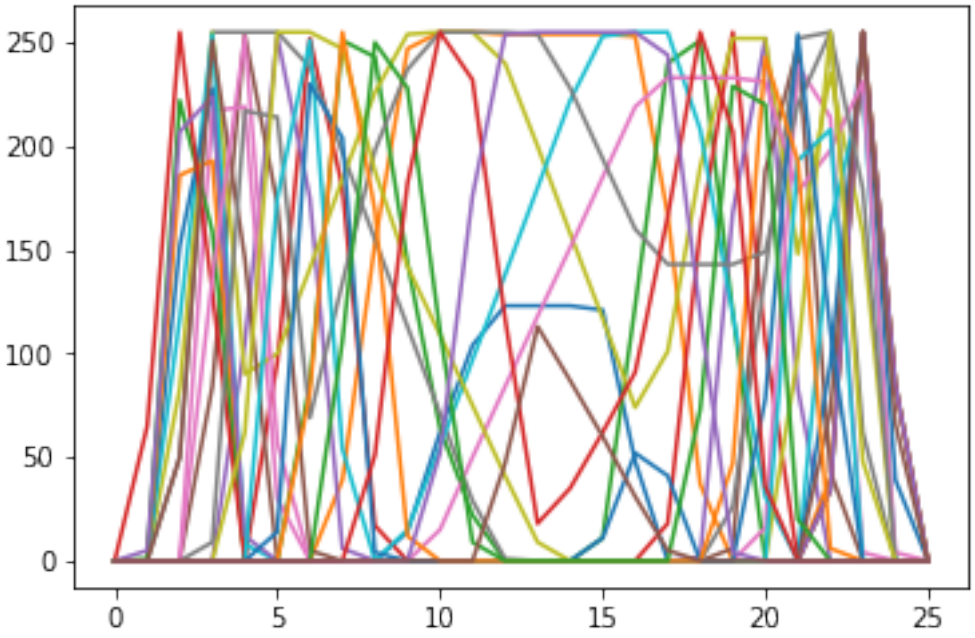
```
In [6]: first_five_images=images[0:5,]
        for image in first_five_images:
            plt.figure()
            plt.plot(image)
```






250
200
150
100
50
0
0
5
10
15
20
25


250
200
150
100
50
0
0
5
10
15
20
25


250
200
150
100
50
0
0
5
10
15
20
25