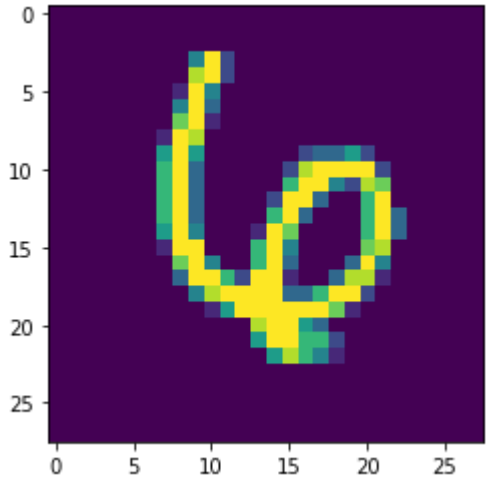
```
from keras.datasets import mnist
import matplotlib.pyplot as plt
from keras.utils import np_utils


(X_train,y_train),(X_test,y_test) =mnist.load_data()
print(X_train.shape)
print(X_test.shape)
```

```
Downloading data from https://storage.googleapis.com/tensorflow/tf-keras-datasets/mni
11490434/11490434 [==============================] - 1s 0us/step
(60000, 28, 28)
(10000, 28, 28)
```

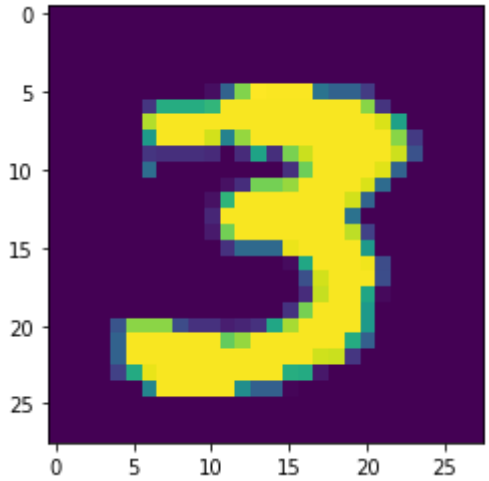
```
print("The label value is ",y_test[22])
plt.imshow(X_test[22])
```

```
The label value is  6
<matplotlib.image.AxesImage at 0x7f054252a150>
```




```
print("The label value is ",y_train[27])
plt.imshow(X_train[27])
```

```
The label value is  3
<matplotlib.image.AxesImage at 0x7f0542010310>
```



```
X_train = X_train.reshape(60000, 28, 28, 1).astype('float32')
X_test = X_test.reshape(10000, 28, 28, 1).astype('float32')



number_of_classes= 10
y_train = np_utils.to_categorical(y_train,number_of_classes)
y_test = np_utils.to_categorical(y_test,number_of_classes)


print("After encoding the value 6 of y_test[22] become", y_test[22])
```

```
After encoding the value 6 of y_test[22] become [0. 0. 0. 0. 0. 0. 1. 0. 0. 0.]
```