

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

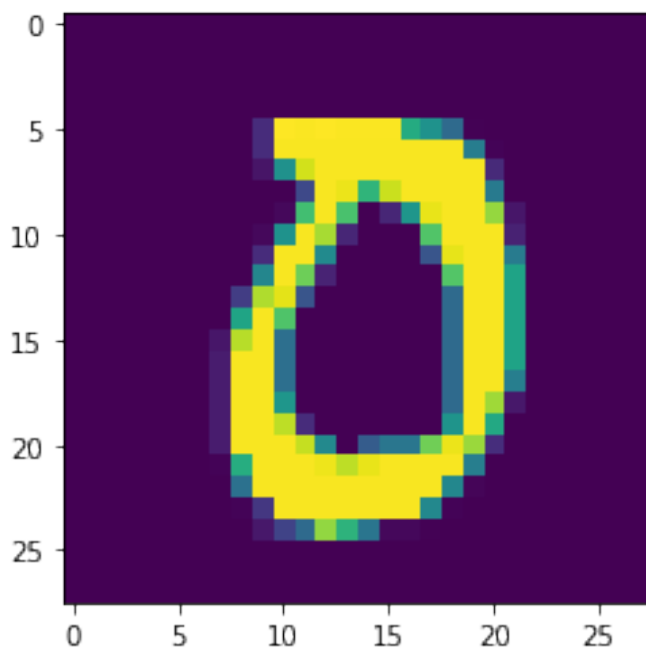
(X_train,y_train),(X_test,y_test) =mnist.load_data()
print(X_train.shape)
print(X_test.shape)

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

print("The label value is ",y_test[28])
plt.imshow(X_test[28])
```

The label value is 0

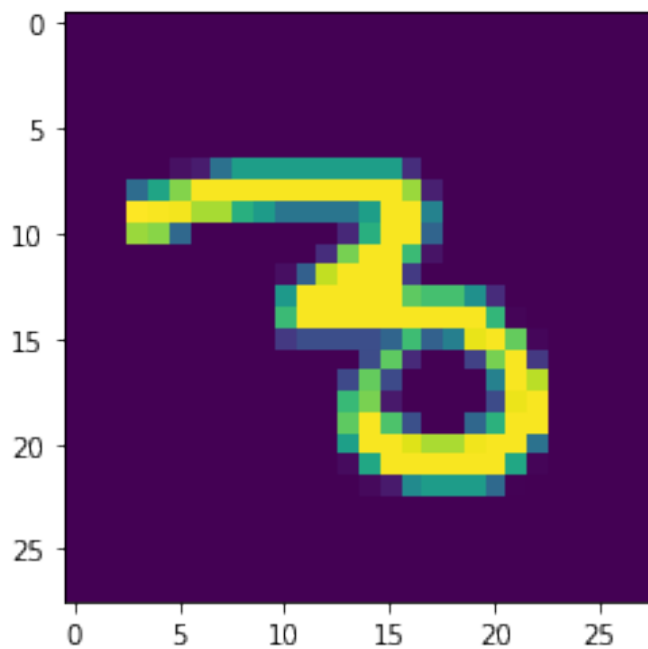
<matplotlib.image.AxesImage at 0x7fdbbb1a3710>



```
print("The label value is ",y_train[30])
plt.imshow(X_train[30])
```

The label value is 3

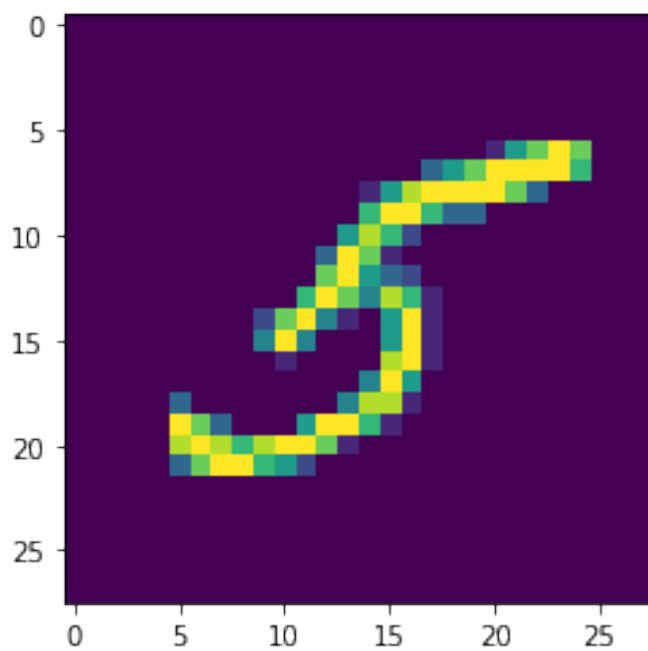
<matplotlib.image.AxesImage at 0x7fdbbb11d210>



```
print("The label value is ",y_train[35])  
plt.imshow(X_train[35])
```

The label value is 5

<matplotlib.image.AxesImage at 0x7fdbbb085750>



```
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[28] become", y_test[28])

After encoding the value 6 of y_test[28] become [1. 0. 0. 0. 0. 0. 0.
0. 0. 0.]
```