```
In [31]: import tensorflow as ts from tensorflow import keras
```

In [33]: (x_train,y_train),(x_test,y_test)=keras.datasets.mnist.load_data()

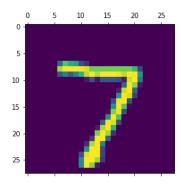
In [35]: x_train[0]

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In [36]: import matplotlib.pyplot as plt
In [48]: plt.matshow(x train[6])
Out[48]: <matplotlib.image.AxesImage at 0x1ef7c3419d0>
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In [43]: y_train[6]
Out[43]: 1
In [45]: x_train=x_train/255
      x_test=x_test/255
In [46]: y_train[0]
Out[46]: 5
In [52]: x_train_flattened=x_train.reshape(len(x_train),28*28)
      x_test_flattened=x_test.reshape(len(x_test),28*28)
In [53]: |x_train_flattened.shape
Out[53]: (60000, 784)
In [54]: x_test_flattened.shape
Out[54]: (10000, 784)
In [64]: model=keras.Sequential([
        keras.layers.Dense(10,input_shape=(784,),activation='sigmoid')
      ])
      model.compile(optimizer='adam',
                loss='sparse_categorical_crossentropy',
                metrics=['accuracy'])
      model.fit(x_train_flattened,y_train,epochs=5)
      Epoch 1/5
      Epoch 2/5
      Epoch 3/5
      Epoch 4/5
      Epoch 5/5
      Out[64]: <keras.callbacks.History at 0x1ef7f981ac0>
In [65]: | model.evaluate(x_test_flattened,y_test)
      Out[65]: [0.26925358176231384, 0.9257000088691711]
In [66]: y_predicted=model.predict(x_test_flattened)
      313/313 [=========== ] - 0s 934us/step
```

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In [69]: plt.matshow(x_test[0])
```

Out[69]: <matplotlib.image.AxesImage at 0x1ef008f75b0>



In [70]: y_test[0]

Out[70]: 7

In []: