```
from google.colab import files
uploaded = files.upload()
```

```
Choose Files No file chosen    Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.
Saving archive (4).zip to archive (4).zip
```

```
#Load the data
from tensorflow.keras.datasets import mnist
(x_train, y_train), (x_test, y_test) = mnist.load_data()
```

```
Downloading data from https://storage.googleapis.com/tensorflow/tf-keras-datasets/mnist.npz
11490434/11490434 ━━━━━━━━━━━━━━━━━━━━ 0s 0us/step
```

```
#Normalize the data
x_train = x_train / 255.0
x_test = x_test / 255.0
```

```
#Build a simple model
from tensorflow.keras import Sequential
from tensorflow.keras.layers import Flatten, Dense

model = Sequential([
    Flatten(input_shape=(28, 28)),
    Dense(128, activation='relu'),
    Dense(10, activation='softmax')
])
```

```
/usr/local/lib/python3.11/dist-packages/keras/src/layers/reshaping/flatten.py:37: UserWarning: Do not pass an `input_shape`/`input_c
  super().__init__(**kwargs)
```

```
#Compile the model
model.compile(optimizer='adam',
              loss='sparse_categorical_crossentropy',
              metrics=['accuracy'])
```

```
#Train the model
model.fit(x_train, y_train, epochs=5)
```

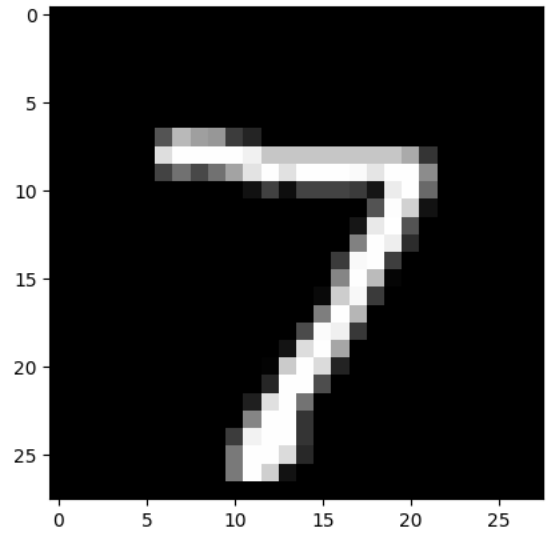
```
Epoch 1/5
1875/1875 ━━━━━━━━━━━━━━━━━━━━ 9s 4ms/step - accuracy: 0.8779 - loss: 0.4351
Epoch 2/5
1875/1875 ━━━━━━━━━━━━━━━━━━━━ 10s 4ms/step - accuracy: 0.9634 - loss: 0.1212
Epoch 3/5
1875/1875 ━━━━━━━━━━━━━━━━━━━━ 6s 3ms/step - accuracy: 0.9769 - loss: 0.0761
Epoch 4/5
1875/1875 ━━━━━━━━━━━━━━━━━━━━ 11s 4ms/step - accuracy: 0.9833 - loss: 0.0559
Epoch 5/5
1875/1875 ━━━━━━━━━━━━━━━━━━━━ 11s 4ms/step - accuracy: 0.9872 - loss: 0.0434
<keras.src.callbacks.history.History at 0x7cdbac6a2750>
```

```
#Test the model
test_loss, test_acc = model.evaluate(x_test, y_test)
print(f"Test accuracy: {test_acc}")
```

```
313/313 ━━━━━━━━━━━━━━━━━━━━ 1s 2ms/step - accuracy: 0.9734 - loss: 0.0819
Test accuracy: 0.9769999980926514
```

```
#Visualize the results
import matplotlib.pyplot as plt
plt.imshow(x_test[0], cmap='gray')
prediction = model.predict(x_test[0:1])
print(f"Predicted label: {prediction.argmax()}")
```

```
1/1 ━━━━━━━━━━━━━━━━━━━━ 0s 66ms/step
Predicted label: 7
```



Start coding or generate with AI.