In [1]:

```python
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 (https://storage.googleapis.com/tensorflow/tf-keras-datasets/mnist.npz)
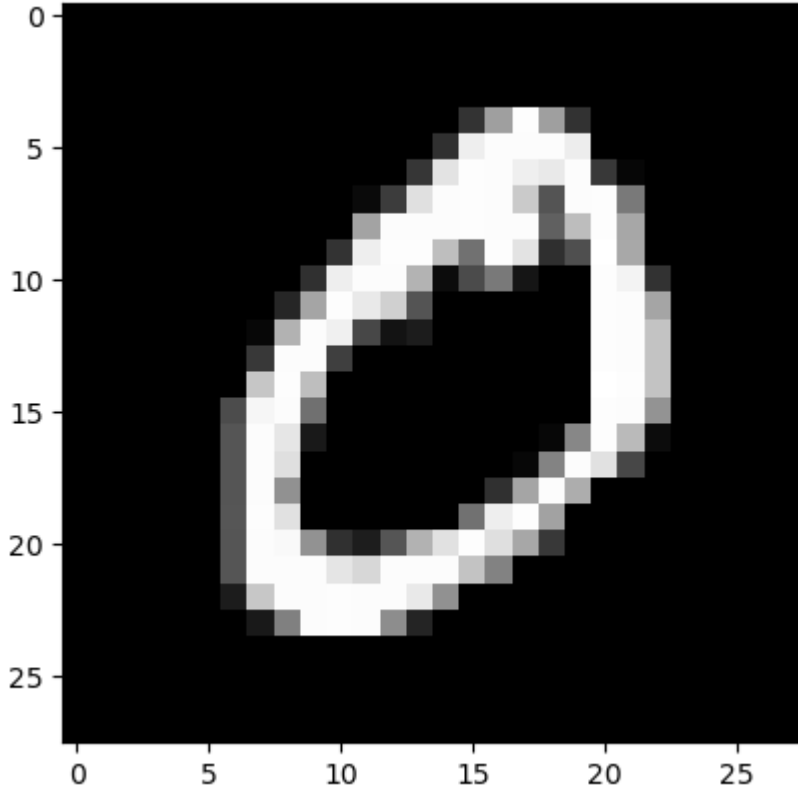11490434/11490434 [==============================] - 2s 0us/step

In [2]:

```python
import matplotlib.pyplot as plt
get_ipython().run_line_magic('matplotlib', 'inline')
```
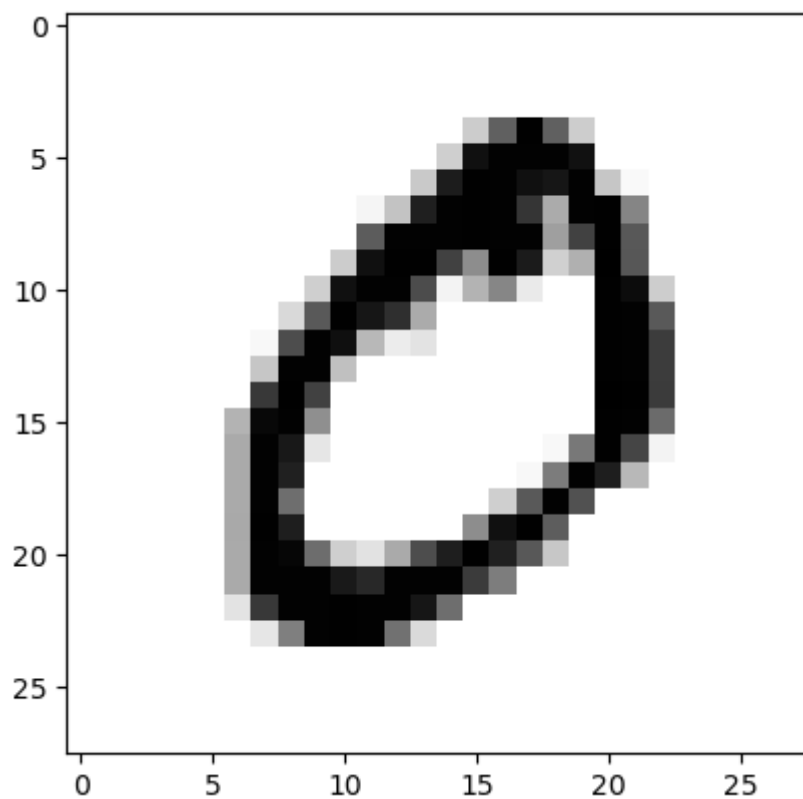
In [3]:

```python
sample = 1
image = X_train[sample]

fig = plt.figure
plt.imshow(image,cmap='gray')
plt.show()
```

In [4]:

```python
fig = plt.figure
plt.imshow(image,cmap='gray_r')
plt.show()
```

In [5]:

```python
num = 10
images = X_train[:num]
labels = Y_train[:num]
print(images)
print(labels)
```

```
[[[0 0 0 ... 0 0 0]
  [0 0 0 ... 0 0 0]
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  ...
  [0 0 0 ... 0 0 0]
  [0 0 0 ... 0 0 0]
  [0 0 0 ... 0 0 0]]]
[5 0 4 1 9 2 1 3 1 4]
```

In [7]:

```python
num = 10
images = X_train[:num]
labels = Y_train[:num]

num_row = 2
num_col = 5

fig,axes = plt.subplots(num_row,num_col,figsize = (1.5*num_col,2*num_row))

for i in range(num):
    ax = axes[i//num_col,i%num_col]
    ax.imshow(images[i],cmap='gray')
    ax.set_title('Label: {}'.format(labels[i]))

plt.tight_layout()
plt.show()
```