

Analyzing the data

Input:

X_train[0]

Output:

```
Array([
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  30, 36, 94,154,170,
    253,253,253,253,253,225,172,253,242,195, 64, 0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0, 49,238,253,253,253,253,
    253,253,253,253,251,93, 82, 82, 56, 39,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,18,219,253,253,253,253,
    253,198,182,247,241,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,80,156,107,253,253,
    205, 11, 0, 43,154,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,14,  1,154,253,
    90, 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,139,253,
    190, 2,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,11,190,
    253, 70, 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,35,
    241,225,160,108,  1,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    81,240,253,253,119, 25,  0,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0, 45,186,253,253,150, 27,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0,16, 93,252,253,187,  0,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0,  0,  0,249,253,249, 64,  0,  0,  0,  0,  0,
    0,  0],
  [ 0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,  0,
    0, 46,130,183,253,253,207, 2,  0,  0,  0,  0,  0,
```

```
0, 0],
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 39,
148, 229, 253, 253, 253, 250, 182, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 24, 114, 221,
253, 253, 253, 253, 201, 78, 0, 0, 0, 0, 0, 0, 0,
0, 0],

[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 23, 66, 213, 253, 253,
253, 253, 198, 81, 2, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 0, 0, 18, 171, 219, 253, 253, 253, 253,
195, 80, 9, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 55, 172, 226, 253, 253, 253, 253, 244, 133,
11, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 136, 253, 253, 253, 212, 135, 132, 16, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0], dtype=uint8)
```

Input:

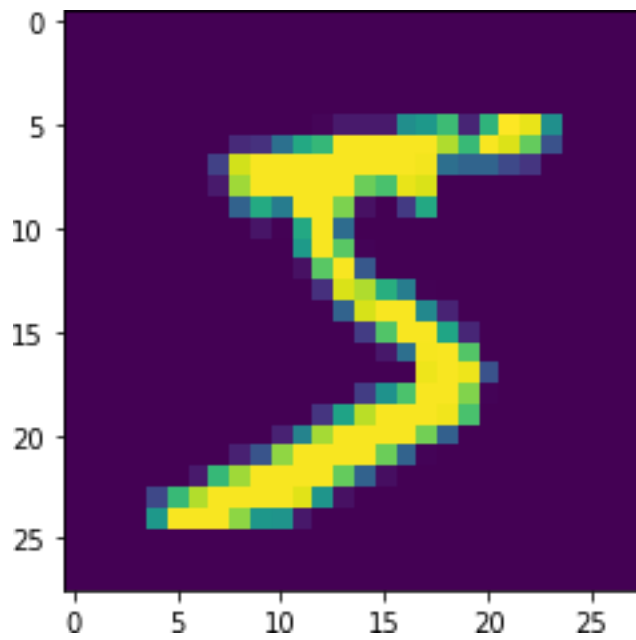
```
y_train[0]
```

Output:

5

Input:

```
import matplotlib.pyplot as plt  
plt.imshow(X_train[0])
```



Input:

```
plt.imshow(X_train[12])
```

Output:

