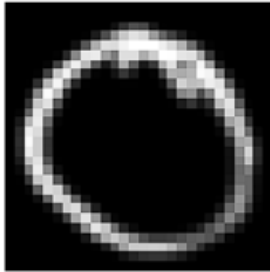


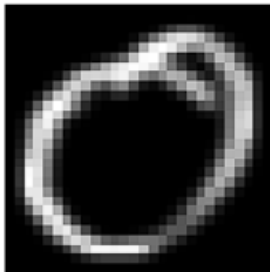
---

Training set: (17000, 28, 28, 1), Labels: (17000, 10)  
Testing set: (3000, 28, 28, 1), Labels: (3000, 10)

Label: 0



Label: 0



model: sequential\_10

Layer (type)	Output Shape	Param #
flatten_10 (Flatten)	(None, 784)	0
dense_40 (Dense)	(None, 16)	12,560
dense_41 (Dense)	(None, 32)	544
dense_42 (Dense)	(None, 32)	1,056
dense_43 (Dense)	(None, 10)	330

Total params: 14,490 (56.60 KB)

Trainable params: 14,490 (56.60 KB)

Non-trainable params: 0 (0.00 B)

```
Epoch 1/20
107/107 — 2s 6ms/step - accuracy: 0.2046 - loss: 2.3074 - val_accuracy: 0.0000e+00 - val_loss: 3.9464
Epoch 2/20
107/107 — 0s 4ms/step - accuracy: 0.4878 - loss: 1.9105 - val_accuracy: 0.0000e+00 - val_loss: 4.6360
Epoch 3/20
107/107 — 1s 4ms/step - accuracy: 0.6297 - loss: 1.4534 - val_accuracy: 0.0000e+00 - val_loss: 5.1182
Epoch 4/20
107/107 — 1s 4ms/step - accuracy: 0.7542 - loss: 1.0365 - val_accuracy: 0.0000e+00 - val_loss: 5.5507
Epoch 5/20
107/107 — 0s 4ms/step - accuracy: 0.8376 - loss: 0.7891 - val_accuracy: 0.0000e+00 - val_loss: 5.9151
ut[145... <keras.src.callbacks.history.History at 0x7ce37d4da1d0>
```

```
24/24 - 0s - 16ms/step - accuracy: 0.6920 - loss: 1.7144
Testing accuracy: 0.6920
Testing loss: 1.7144
```

```
Epoch 1/20
107/107 — 0s 4ms/step - accuracy: 0.8805 - loss: 0.6245 - val_accuracy: 0.0000e+00 - val_loss: 6.2283
Epoch 2/20
107/107 — 1s 4ms/step - accuracy: 0.9001 - loss: 0.5043 - val_accuracy: 0.0000e+00 - val_loss: 6.5030
Epoch 3/20
107/107 — 1s 4ms/step - accuracy: 0.9274 - loss: 0.4099 - val_accuracy: 0.0000e+00 - val_loss: 6.7833
Epoch 4/20
107/107 — 0s 4ms/step - accuracy: 0.9333 - loss: 0.3465 - val_accuracy: 0.0000e+00 - val_loss: 7.0317
Epoch 5/20
107/107 — 1s 4ms/step - accuracy: 0.9443 - loss: 0.2902 - val_accuracy: 0.0000e+00 - val_loss: 7.3033
```

