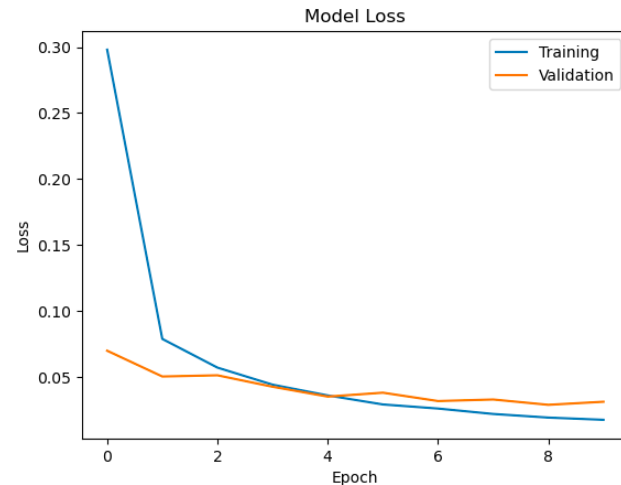
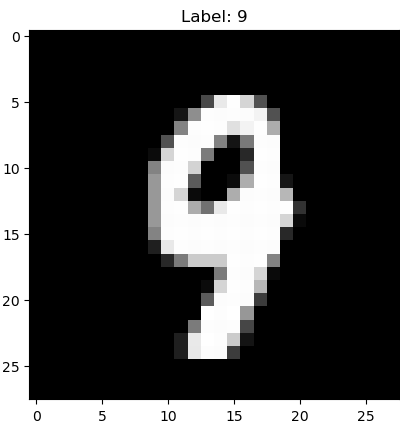


Homework 8

```
model = keras.Sequential([
    keras.Input(shape=input_shape),
    keras.layers.Conv2D(8, kernel_size=(3, 3), activation="relu", padding="same"),
    keras.layers.MaxPooling2D(pool_size=(2, 2)),
    keras.layers.Conv2D(16, kernel_size=(3, 3), activation="relu", padding="same"),
    keras.layers.MaxPooling2D(pool_size=(2, 2)),
    keras.layers.Conv2D(32, kernel_size=(3, 3), activation="relu", padding="same"),
    keras.layers.Flatten(),
    keras.layers.Dense(128, activation="relu"),
    keras.layers.Dropout(0.2),
    keras.layers.Dense(num_classes, activation="softmax"),
])
```

model.summary()

✓ 0.0s



List of five activation functions:

1. Logistic (sigmoid)
2. Rectified Linear Unit (ReLU)
3. Hyperbolic Tangent (Tanh)
4. Softmax
5. Linear

What is adam?

Adam is just an optimizer to optimize the network and perform gradient descent.

What is sparse_categorical_crossentropy?

It is the objective function (loss function) that optimizes the error between the predictions and the ground truth for two or more label classes. (in this case: 10 classes)

What is an epoch?

Epoch refers to one complete pass through the entire training dataset during the training of a model.

Test loss: 0.027
Test accuracy: 99.09%