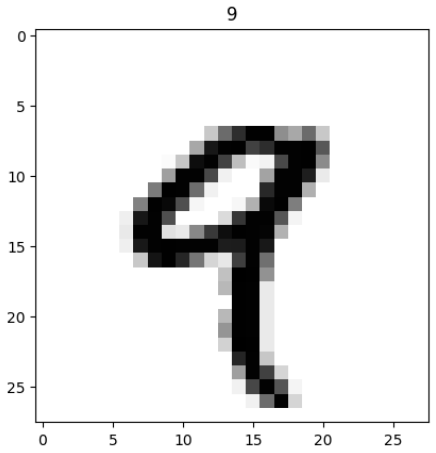
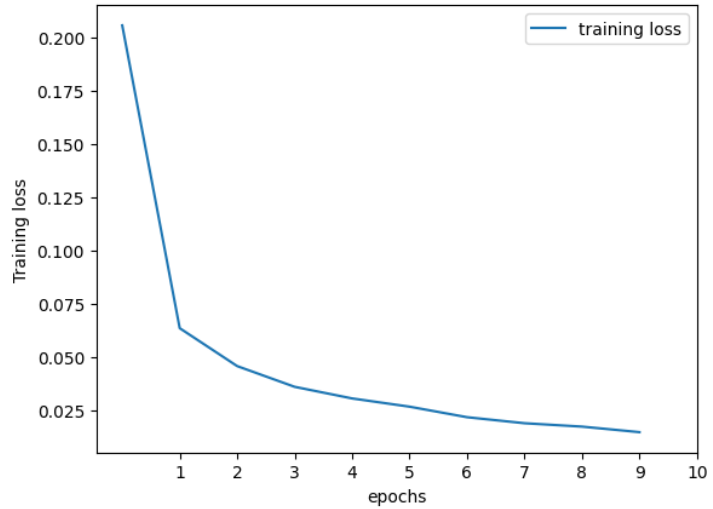


Examples of Activation functions are:
Sigmoid, softmax, hyperbolic tangent,
Rectified Linear Unit(ReLU), Leaky ReLU.

```python
def build_model():
    model = tf.keras.Sequential()
    #Stage 1
    model.add(tf.keras.layers.Conv2D(filters=8, kernel_size=(3, 3), activation='relu', input_shape=(28, 28, 1)))
    model.add(tf.keras.layers.MaxPooling2D(pool_size=(2, 2)))
    #Stage 2
    model.add(tf.keras.layers.Conv2D(filters=16, kernel_size=(3, 3), activation='relu', input_shape=(14, 14, 1)))
    model.add(tf.keras.layers.MaxPooling2D(pool_size=(2, 2)))
    #Stage 3
    model.add(tf.keras.layers.Conv2D(filters=32, kernel_size=(3, 3), activation='relu', input_shape=(7, 7, 1)))
    #Stage 4
    model.add(layers.Flatten(input_shape=(7, 7)))
    #Stage 5
    model.add(layers.Dense(128, activation="relu"))
    model.add(layers.Dropout(0.2))
    #Stage 6
    model.add(layers.Dense(10, activation="softmax"))
    return model
```

Q1: “Adam()” is an optimizer used to minimize the loss during training. It stands for Adaptive Moment Estimation. It combines the ideas of two other optimization algorithms: Momentum and RMSprop.
Q2: “sparse_categorical_crossentropy” is a loss function used in classification tasks when the labels are provided as integers (class indices). Unlike one-hot encoding, these assign fixed labels to the classes.
Q3: Epoch is complete pass through the entire training dataset during the training of a neural network. One epoch is completed when the model has seen and learned from every sample in the training dataset once. The epochs=10 means the model will go through the entire training dataset 10 times, adjusting its parameters to improve its performance.




```
313/313 [==============================] - 1s 4ms/step - loss: 0.0446 - accuracy: 0.9870
Test accuracy: 98.70%
```

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