```python
model = tf.keras.Sequential()

def build_model():
    # Stage 1: Conv3x3 & ReLU & MaxPooling (Layers 3)
    model.add(Conv2D(8, (3, 3), input_shape=(28, 28, 1), padding='same'))
    model.add(Activation('relu'))
    model.add(MaxPool2D(pool_size=(2, 2)))

    # Stage 2: Conv3x3 & ReLU & MaxPooling (Layers 3)
    model.add(Conv2D(16, (3, 3), input_shape=(14, 14, 1), padding= "same"))
    model.add(Activation('relu'))
    model.add(MaxPool2D(pool_size=(2, 2)))

    # Stage 3: Conv3x3 & ReLU (Layers 2)
    model.add(Conv2D(32, (3, 3), input_shape=(7, 7, 1), padding= "same"))
    model.add(Activation('relu'))

    # Stage 4: Flatten
    model.add(Flatten())

    # Stage 5: Dense & ReLU & Dropout(0.2)  (Layers 3)
    model.add(Dense(128))
    model.add(Activation('relu'))
    model.add(Dropout(0.2))

    # Stage 6: Dense & Softmax (Layers 2)
    model.add(Dense(10))
    model.add(Activation('softmax'))

    return model
```

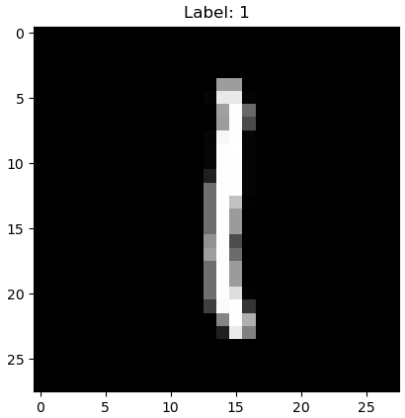
List of five activation function:

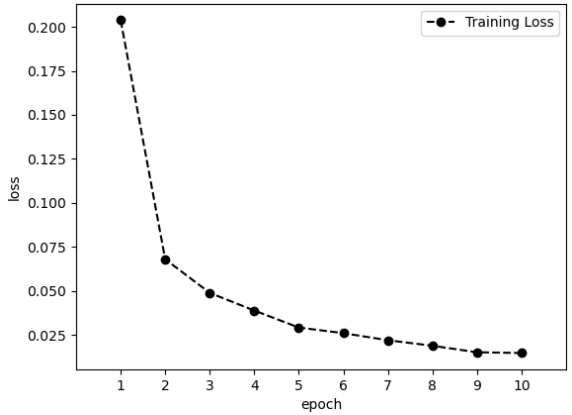
1. ReLU
2. Sigmoid
3. Tanh
4. Softmax
5. Leaky ReLU

What is Adam?
Adam is an optimization algorithm that combines the advantages of Momentum and RMSProp, making it efficient and adaptive for deep learning tasks.

What does sparse_categorical_crossentropy mean?
It is a loss function used for multi-class classification problems where labels are integers instead of one-hot encoded vectors.

What does "epoch" mean?
An epoch is one complete pass through the entire training dataset during the training process.






```
Epoch 10/10
1500/1500 [==============================] - 138s 92ms/step - loss: 0.0133 - accuracy: 0.9959 - val_loss: 0.0426 - val_accuracy: 0.9917
313/313 [==============================] - 1s 2ms/step - loss: 0.0306 - accuracy: 0.9919
Test Loss: 0.03062160685658455, Test Accuracy: 0.9919000267982483
```

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