





















Downloading data from <https://storage.googleapis.com/tensorflow/tf-keras-datasets/mnist.npz>
11490434/11490434 — 0s 0us/step

Epoch 1/50				
235/235		6s	19ms/step	loss: 0.3832 - val_loss: 0.1898
Epoch 2/50				
235/235		2s	10ms/step	loss: 0.1804 - val_loss: 0.1541
Epoch 3/50				
235/235		3s	10ms/step	loss: 0.1496 - val_loss: 0.1343
Epoch 4/50				
235/235		2s	10ms/step	loss: 0.1321 - val_loss: 0.1220
Epoch 5/50				
235/235		3s	11ms/step	loss: 0.1211 - val_loss: 0.1140
Epoch 6/50				
235/235		3s	12ms/step	loss: 0.1138 - val_loss: 0.1080
Epoch 7/50				
235/235		2s	9ms/step	loss: 0.1079 - val_loss: 0.1037
Epoch 8/50				
235/235		3s	10ms/step	loss: 0.1040 - val_loss: 0.1005
Epoch 9/50				
235/235		2s	10ms/step	loss: 0.1006 - val_loss: 0.0980
Epoch 10/50				
235/235		3s	12ms/step	loss: 0.0986 - val_loss: 0.0962
Epoch 11/50				
235/235		5s	10ms/step	loss: 0.0971 - val_loss: 0.0950
Epoch 12/50				
235/235		2s	10ms/step	loss: 0.0961 - val_loss: 0.0942
Epoch 13/50				
235/235		3s	12ms/step	loss: 0.0950 - val_loss: 0.0937
Epoch 14/50				
235/235		4s	18ms/step	loss: 0.0949 - val_loss: 0.0933

Epoch 15/50				
235/235		3s	10ms/step	loss: 0.0946 - val_loss: 0.0930
Epoch 16/50				
235/235		2s	10ms/step	loss: 0.0940 - val_loss: 0.0928
Epoch 17/50				
235/235		2s	10ms/step	loss: 0.0940 - val_loss: 0.0926
Epoch 18/50				
235/235		3s	13ms/step	loss: 0.0938 - val_loss: 0.0925
Epoch 19/50				
235/235		5s	10ms/step	loss: 0.0938 - val_loss: 0.0923
Epoch 20/50				
235/235		3s	10ms/step	loss: 0.0935 - val loss: 0.0923

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Epoch 31/50
235/235 ————— 2s 10ms/step - loss: 0.0928 - val_loss: 0.0918
Epoch 32/50
235/235 ————— 4s 14ms/step - loss: 0.0928 - val_loss: 0.0918
Epoch 33/50
235/235 ————— 4s 10ms/step - loss: 0.0930 - val_loss: 0.0918
Epoch 34/50
235/235 ————— 3s 10ms/step - loss: 0.0930 - val_loss: 0.0918
Epoch 35/50
235/235 ————— 4s 16ms/step - loss: 0.0927 - val_loss: 0.0918
Epoch 36/50
235/235 ————— 4s 10ms/step - loss: 0.0930 - val_loss: 0.0917
Epoch 37/50
235/235 ————— 2s 9ms/step - loss: 0.0929 - val_loss: 0.0917
Epoch 38/50
235/235 ————— 3s 10ms/step - loss: 0.0927 - val_loss: 0.0918
Epoch 39/50
235/235 ————— 3s 12ms/step - loss: 0.0928 - val_loss: 0.0918
Epoch 40/50
235/235 ————— 5s 10ms/step - loss: 0.0926 - val_loss: 0.0917
Epoch 41/50
235/235 ————— 2s 10ms/step - loss: 0.0928 - val_loss: 0.0918
Epoch 42/50
235/235 ————— 3s 10ms/step - loss: 0.0928 - val_loss: 0.0916
Epoch 43/50
235/235 ————— 3s 11ms/step - loss: 0.0926 - val_loss: 0.0917
Epoch 44/50
235/235 ————— 3s 13ms/step - loss: 0.0926 - val_loss: 0.0916
Epoch 45/50
235/235 ————— 4s 10ms/step - loss: 0.0929 - val_loss: 0.0916
Epoch 46/50
235/235 ————— 2s 9ms/step - loss: 0.0926 - val_loss: 0.0915
Epoch 47/50
235/235 ————— 3s 11ms/step - loss: 0.0927 - val_loss: 0.0916
Epoch 48/50
235/235 ————— 3s 14ms/step - loss: 0.0928 - val_loss: 0.0916
Epoch 49/50
235/235 ————— 4s 10ms/step - loss: 0.0927 - val_loss: 0.0915
Epoch 50/50
235/235 ————— 2s 10ms/step - loss: 0.0928 - val_loss: 0.0915
313/313 ————— 1s 2ms/step - loss: 0.0923
313/313 ————— 0s 1ms/step
Test Loss: 0.09152553230524063
Test Accuracy: 0.9713781887755102

```

