```
1 F:\Tasarım\Deneme1\venv\Scripts\python.exe F
  :/Tasarım/Deneme1/train.py
2 2021-11-13 15:09:33.580851: W tensorflow/
  stream_executor/platform/default/dso_loader.
  cc:64] Could not load dynamic library '
  cudart64_110.dll'; dlerror: cudart64_110.dll
  not found
3 2021-11-13 15:09:33.584235: I tensorflow/
  stream_executor/cuda/cudart_stub.cc:29]
  Ignore above cudart dlerror if you do not
  have a GPU set up on your machine.
4 2021-11-13 15:10:40.579126: W tensorflow/
  stream_executor/platform/default/dso_loader.
  cc:64] Could not load dynamic library '
  cudart64_110.dll'; dlerror: cudart64_110.dll
  not found
5 2021-11-13 15:10:40.584006: W tensorflow/
  stream_executor/platform/default/dso_loader.
  cc:64] Could not load dynamic library '
  cublas64_11.dll'; dlerror: cublas64_11.dll
  not found
6 2021-11-13 15:10:40.589631: W tensorflow/
  stream_executor/platform/default/dso_loader.
  cc:64] Could not load dynamic library '
  cublasLt64_11.dll'; dlerror: cublasLt64_11.
  dll not found
7 2021-11-13 15:10:40.594521: W tensorflow/
  stream_executor/platform/default/dso_loader.
  cc:64] Could not load dynamic library '
  cufft64_10.dll'; dlerror: cufft64_10.dll not
  found
8 2021-11-13 15:10:40.599317: W tensorflow/
  stream_executor/platform/default/dso_loader.
  cc:64] Could not load dynamic library '
  curand64_10.dll'; dlerror: curand64_10.dll
```

```
 8 not found
 9 2021-11-13 15:10:40.604241: W tensorflow/
   stream_executor/platform/default/dso_loader.
   cc:64] Could not load dynamic library '
   cusolver64_11.dll'; dlerror: cusolver64_11.
   dll not found
10 2021-11-13 15:10:40.637795: W tensorflow/
   stream_executor/platform/default/dso_loader.
   cc:64] Could not load dynamic library '
   cusparse64_11.dll'; dlerror: cusparse64_11.
   dll not found
11 2021-11-13 15:10:40.643023: W tensorflow/
   stream_executor/platform/default/dso_loader.
   cc:64] Could not load dynamic library '
   cudnn64_8.dll'; dlerror: cudnn64_8.dll not
   found
12 2021-11-13 15:10:40.643821: W tensorflow/core
   /common_runtime/gpu/gpu_device.cc:1835]
   Cannot dlopen some GPU libraries. Please make
    sure the missing libraries mentioned above
   are installed properly if you would like to
   use GPU. Follow the guide at https://www.
   tensorflow.org/install/gpu for how to
   download and setup the required libraries for
    your platform.
13 Skipping registering GPU devices...
14 2021-11-13 15:10:40.710492: I tensorflow/core
   /platform/cpu_feature_guard.cc:142] This
   TensorFlow binary is optimized with oneAPI
   Deep Neural Network Library (oneDNN) to use
   the following CPU instructions in performance
   -critical operations:  AVX AVX2
15 To enable them in other operations, rebuild
   TensorFlow with the appropriate compiler
   flags.
```

```
16 Model: "sequential"
17 _____
   _____
18 Layer (type)                    Output Shape
                  Param #
19 ==============================================
   ====================
20 conv2d (Conv2D)                 (None, 42, 11,
   64)         640
21 _____
   _____
22 batch_normalization (BatchNo (None, 42, 11,
   64)         256
23 _____
   _____
24 max_pooling2d (MaxPooling2D) (None, 21, 6, 64
   )         0
25 _____
   _____
26 conv2d_1 (Conv2D)               (None, 19, 4, 32
   )         18464
27 _____
   _____
28 batch_normalization_1 (Batch (None, 19, 4, 32
   )         128
29 _____
   _____
30 max_pooling2d_1 (MaxPooling2 (None, 10, 2, 32
   )         0
31 _____
   _____
32 conv2d_2 (Conv2D)               (None, 9, 1, 32
   )         4128
33 _____
   _____
```

```
34 batch_normalization_2 (Batch (None, 9, 1, 32
   )              128
35 _____
   _____
36 max_pooling2d_2 (MaxPooling2 (None, 5, 1, 32
   )                0
37 _____
   _____
38 flatten (Flatten)            (None, 160
   )                0
39 _____
   _____
40 dense (Dense)                (None, 64
   )              10304
41 _____
   _____
42 dropout (Dropout)            (None, 64
   )                0
43 _____
   _____
44 dense_1 (Dense)              (None, 10
   )              650
45 ========================================
   ====================
46 Total params: 34,698
47 Trainable params: 34,442
48 Non-trainable params: 256
49 _____
   _____
50 2021-11-13 15:10:41.969023: I tensorflow/
   compiler/mlir/mlir_graph_optimization_pass.cc
   :185] None of the MLIR Optimization Passes
   are enabled (registered 2)
51 Epoch 1/50
52 540/540 [=============================] -
```

```
52 29s 48ms/step - loss: 2.3302 - accuracy: 0.
   2422 - val_loss: 1.7263 - val_accuracy: 0.
   4426
53 Epoch 2/50
54 540/540 [==============================] -
   22s 40ms/step - loss: 1.6375 - accuracy: 0.
   4526 - val_loss: 1.2800 - val_accuracy: 0.
   6064
55 Epoch 3/50
56 540/540 [==============================] -
   23s 42ms/step - loss: 1.2745 - accuracy: 0.
   5856 - val_loss: 0.9826 - val_accuracy: 0.
   7028
57 Epoch 4/50
58 540/540 [==============================] -
   22s 41ms/step - loss: 1.0540 - accuracy: 0.
   6633 - val_loss: 0.8503 - val_accuracy: 0.
   7596
59 Epoch 5/50
60 540/540 [==============================] -
   23s 43ms/step - loss: 0.9023 - accuracy: 0.
   7212 - val_loss: 0.7950 - val_accuracy: 0.
   7523
61 Epoch 6/50
62 540/540 [==============================] -
   22s 41ms/step - loss: 0.7869 - accuracy: 0.
   7647 - val_loss: 0.6609 - val_accuracy: 0.
   8118
63 Epoch 7/50
64 540/540 [==============================] -
   23s 42ms/step - loss: 0.7170 - accuracy: 0.
   7867 - val_loss: 0.6049 - val_accuracy: 0.
   8384
65 Epoch 8/50
66 540/540 [==============================] -
```

```
66 23s 43ms/step - loss: 0.6459 - accuracy: 0.
   8118 - val_loss: 0.5463 - val_accuracy: 0.
   8441
67 Epoch 9/50
68 540/540 [==============================] -
   24s 44ms/step - loss: 0.5931 - accuracy: 0.
   8295 - val_loss: 0.5378 - val_accuracy: 0.
   8483
69 Epoch 10/50
70 540/540 [==============================] -
   23s 43ms/step - loss: 0.5489 - accuracy: 0.
   8439 - val_loss: 0.4738 - val_accuracy: 0.
   8754
71 Epoch 11/50
72 540/540 [==============================] -
   23s 42ms/step - loss: 0.5234 - accuracy: 0.
   8537 - val_loss: 0.4605 - val_accuracy: 0.
   8775
73 Epoch 12/50
74 540/540 [==============================] -
   25s 46ms/step - loss: 0.4870 - accuracy: 0.
   8673 - val_loss: 0.4785 - val_accuracy: 0.
   8712
75 Epoch 13/50
76 540/540 [==============================] -
   23s 42ms/step - loss: 0.4575 - accuracy: 0.
   8754 - val_loss: 0.4785 - val_accuracy: 0.
   8717
77 Epoch 14/50
78 540/540 [==============================] -
   21s 40ms/step - loss: 0.4377 - accuracy: 0.
   8814 - val_loss: 0.4076 - val_accuracy: 0.
   8952
79 Epoch 15/50
80 540/540 [==============================] -
```

```
80  23s 43ms/step - loss: 0.4236 - accuracy: 0.
    8877 - val_loss: 0.4205 - val_accuracy: 0.
    8863
81  Epoch 16/50
82  540/540 [==============================] -
    23s 42ms/step - loss: 0.4029 - accuracy: 0.
    8945 - val_loss: 0.4019 - val_accuracy: 0.
    8900
83  Epoch 17/50
84  540/540 [==============================] -
    23s 42ms/step - loss: 0.3900 - accuracy: 0.
    8973 - val_loss: 0.4030 - val_accuracy: 0.
    8889
85  Epoch 18/50
86  540/540 [==============================] -
    23s 43ms/step - loss: 0.3713 - accuracy: 0.
    9041 - val_loss: 0.3630 - val_accuracy: 0.
    9035
87  Epoch 19/50
88  540/540 [==============================] -
    24s 45ms/step - loss: 0.3694 - accuracy: 0.
    9033 - val_loss: 0.4281 - val_accuracy: 0.
    8884
89  Epoch 20/50
90  540/540 [==============================] -
    26s 48ms/step - loss: 0.3591 - accuracy: 0.
    9075 - val_loss: 0.3608 - val_accuracy: 0.
    9035
91  Epoch 21/50
92  540/540 [==============================] -
    23s 43ms/step - loss: 0.3379 - accuracy: 0.
    9110 - val_loss: 0.3710 - val_accuracy: 0.
    8983
93  Epoch 22/50
94  540/540 [==============================] -
```

```
 94 21s 40ms/step - loss: 0.3341 - accuracy: 0.
    9130 - val_loss: 0.3529 - val_accuracy: 0.
    9046
 95 Epoch 23/50
 96 540/540 [==============================] -
    22s 41ms/step - loss: 0.3219 - accuracy: 0.
    9198 - val_loss: 0.3850 - val_accuracy: 0.
    8947
 97 Epoch 24/50
 98 540/540 [==============================] -
    21s 39ms/step - loss: 0.3154 - accuracy: 0.
    9184 - val_loss: 0.3438 - val_accuracy: 0.
    9108
 99 Epoch 25/50
100 540/540 [==============================] -
    22s 40ms/step - loss: 0.3081 - accuracy: 0.
    9217 - val_loss: 0.3466 - val_accuracy: 0.
    9051
101 Epoch 26/50
102 540/540 [==============================] -
    21s 39ms/step - loss: 0.3057 - accuracy: 0.
    9202 - val_loss: 0.3521 - val_accuracy: 0.
    9004
103 Epoch 27/50
104 540/540 [==============================] -
    20s 38ms/step - loss: 0.2937 - accuracy: 0.
    9264 - val_loss: 0.3209 - val_accuracy: 0.
    9150
105 Epoch 28/50
106 540/540 [==============================] -
    20s 38ms/step - loss: 0.2864 - accuracy: 0.
    9281 - val_loss: 0.3455 - val_accuracy: 0.
    9046
107 Epoch 29/50
108 540/540 [==============================] -
```

```
108 21s 39ms/step - loss: 0.2836 - accuracy: 0.
    9267 - val_loss: 0.3251 - val_accuracy: 0.
    9161
109 Epoch 30/50
110 540/540 [==============================] -
    21s 38ms/step - loss: 0.2754 - accuracy: 0.
    9323 - val_loss: 0.3376 - val_accuracy: 0.
    9098
111 Epoch 31/50
112 540/540 [==============================] -
    20s 37ms/step - loss: 0.2696 - accuracy: 0.
    9329 - val_loss: 0.3216 - val_accuracy: 0.
    9119
113 Epoch 32/50
114 540/540 [==============================] -
    20s 37ms/step - loss: 0.2670 - accuracy: 0.
    9334 - val_loss: 0.3106 - val_accuracy: 0.
    9192
115 Epoch 33/50
116 540/540 [==============================] -
    20s 38ms/step - loss: 0.2622 - accuracy: 0.
    9357 - val_loss: 0.3104 - val_accuracy: 0.
    9192
117 Epoch 34/50
118 540/540 [==============================] -
    20s 37ms/step - loss: 0.2603 - accuracy: 0.
    9340 - val_loss: 0.3198 - val_accuracy: 0.
    9187
119 Epoch 35/50
120 540/540 [==============================] -
    20s 38ms/step - loss: 0.2496 - accuracy: 0.
    9409 - val_loss: 0.3245 - val_accuracy: 0.
    9155
121 Epoch 36/50
122 540/540 [==============================] -
```

```
122 20s 37ms/step - loss: 0.2442 - accuracy: 0.
    9398 - val_loss: 0.3245 - val_accuracy: 0.
    9140
123 Epoch 37/50
124 540/540 [==============================] -
    21s 39ms/step - loss: 0.2439 - accuracy: 0.
    9408 - val_loss: 0.3130 - val_accuracy: 0.
    9197
125 Epoch 38/50
126 540/540 [==============================] -
    25s 46ms/step - loss: 0.2340 - accuracy: 0.
    9435 - val_loss: 0.3284 - val_accuracy: 0.
    9192
127 Epoch 39/50
128 540/540 [==============================] -
    23s 42ms/step - loss: 0.2355 - accuracy: 0.
    9433 - val_loss: 0.3150 - val_accuracy: 0.
    9228
129 Epoch 40/50
130 540/540 [==============================] -
    23s 43ms/step - loss: 0.2326 - accuracy: 0.
    9433 - val_loss: 0.2958 - val_accuracy: 0.
    9281
131 Epoch 41/50
132 540/540 [==============================] -
    24s 44ms/step - loss: 0.2262 - accuracy: 0.
    9471 - val_loss: 0.2976 - val_accuracy: 0.
    9228
133 Epoch 42/50
134 540/540 [==============================] -
    24s 44ms/step - loss: 0.2187 - accuracy: 0.
    9484 - val_loss: 0.3726 - val_accuracy: 0.
    9072
135 Epoch 43/50
136 540/540 [==============================] -
```

```
136 23s 43ms/step - loss: 0.2214 - accuracy: 0.
    9448 - val_loss: 0.3099 - val_accuracy: 0.
    9244
137 Epoch 44/50
138 540/540 [==============================] -
    24s 44ms/step - loss: 0.2092 - accuracy: 0.
    9514 - val_loss: 0.2889 - val_accuracy: 0.
    9249
139 Epoch 45/50
140 540/540 [==============================] -
    24s 45ms/step - loss: 0.2125 - accuracy: 0.
    9499 - val_loss: 0.3205 - val_accuracy: 0.
    9155
141 Epoch 46/50
142 540/540 [==============================] -
    23s 43ms/step - loss: 0.2121 - accuracy: 0.
    9508 - val_loss: 0.3019 - val_accuracy: 0.
    9249
143 Epoch 47/50
144 540/540 [==============================] -
    22s 41ms/step - loss: 0.2114 - accuracy: 0.
    9498 - val_loss: 0.3067 - val_accuracy: 0.
    9307
145 Epoch 48/50
146 540/540 [==============================] -
    23s 42ms/step - loss: 0.2013 - accuracy: 0.
    9528 - val_loss: 0.3623 - val_accuracy: 0.
    8957
147 Epoch 49/50
148 540/540 [==============================] -
    23s 42ms/step - loss: 0.2035 - accuracy: 0.
    9524 - val_loss: 0.3028 - val_accuracy: 0.
    9239
149 Epoch 50/50
150 540/540 [==============================] -
```

```
150 22s 41ms/step - loss: 0.1955 - accuracy: 0.
    9553 - val_loss: 0.2866 - val_accuracy: 0.
    9281
151 67/67 [==============================] - 1s
    15ms/step - loss: 0.2751 - accuracy: 0.9245
152 Test error: 0.27506333589553833, test
    accuracy: 0.9244840741157532
153
154 Process finished with exit code 0
155
```