

```
1 D:\ProgramData\Anaconda3\envs\pythonEx\python.exe "D
 :/GDipSA/SA4108/CA/part 2/CA_part2_jon.py"
2 2020-11-16 12:57:42.560558: W tensorflow/
 stream_executor/platform/default/dso_loader.cc:59]
 Could not load dynamic library 'cudart64_101.dll';
 dlerror: cudart64_101.dll not found
3 2020-11-16 12:57:42.560757: 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 2020-11-16 12:57:46.666013: I tensorflow/
 stream_executor/platform/default/dso_loader.cc:48]
 Successfully opened dynamic library nvcuda.dll
5 2020-11-16 12:57:46.689324: I tensorflow/core/
 common_runtime/gpu/gpu_device.cc:1716] Found device 0
 with properties:
6 pciBusID: 0000:01:00.0 name: GeForce GTX 1060
 computeCapability: 6.1
7 coreClock: 1.6705GHz coreCount: 10 deviceMemorySize:
 6.00GiB deviceMemoryBandwidth: 178.99GiB/s
8 2020-11-16 12:57:46.690560: W tensorflow/
 stream_executor/platform/default/dso_loader.cc:59]
 Could not load dynamic library 'cudart64_101.dll';
 dlerror: cudart64_101.dll not found
9 2020-11-16 12:57:46.691573: W tensorflow/
 stream_executor/platform/default/dso_loader.cc:59]
 Could not load dynamic library 'cublas64_10.dll';
 dlerror: cublas64_10.dll not found
10 2020-11-16 12:57:46.692576: W tensorflow/
 stream_executor/platform/default/dso_loader.cc:59]
 Could not load dynamic library 'cufft64_10.dll';
 dlerror: cufft64_10.dll not found
11 2020-11-16 12:57:46.693570: W tensorflow/
 stream_executor/platform/default/dso_loader.cc:59]
 Could not load dynamic library 'curand64_10.dll';
 dlerror: curand64_10.dll not found
12 2020-11-16 12:57:46.694643: W tensorflow/
 stream_executor/platform/default/dso_loader.cc:59]
 Could not load dynamic library 'cusolver64_10.dll';
 dlerror: cusolver64_10.dll not found
13 2020-11-16 12:57:46.695661: W tensorflow/
 stream_executor/platform/default/dso_loader.cc:59]
 Could not load dynamic library 'cusparse64_10.dll';
 dlerror: cusparse64_10.dll not found
```

```
14 2020-11-16 12:57:46.697215: W tensorflow/
    stream_executor/platform/default/dso_loader.cc:59]
    Could not load dynamic library 'cudnn64_7.dll';
    dlerror: cudnn64_7.dll not found
15 2020-11-16 12:57:46.697395: W tensorflow/core/
    common_runtime/gpu/gpu_device.cc:1753] 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.
16 Skipping registering GPU devices...
17 2020-11-16 12:57:46.698244: 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: AVX2
18 To enable them in other operations, rebuild
    TensorFlow with the appropriate compiler flags.
19 2020-11-16 12:57:46.707614: I tensorflow/compiler/xla/
    /service/service.cc:168] XLA service 0x27a336ddda0
    initialized for platform Host (this does not
    guarantee that XLA will be used). Devices:
20 2020-11-16 12:57:46.707852: I tensorflow/compiler/xla/
    /service/service.cc:176] StreamExecutor device (0
    ): Host, Default Version
21 2020-11-16 12:57:46.708049: I tensorflow/core/
    common_runtime/gpu/gpu_device.cc:1257] Device
    interconnect StreamExecutor with strength 1 edge
    matrix:
22 2020-11-16 12:57:46.708260: I tensorflow/core/
    common_runtime/gpu/gpu_device.cc:1263]
23 Epoch 1/100
24 1/1 [=====] - 0s 143ms/step
    - loss: 1.4726 - accuracy: 0.1958 - val_loss: 1.2632
    - val_accuracy: 0.5833
25 Epoch 2/100
26 1/1 [=====] - 0s 16ms/step
    - loss: 1.3151 - accuracy: 0.3625 - val_loss: 1.2317
    - val_accuracy: 0.4667
27 Epoch 3/100
28 1/1 [=====] - 0s 14ms/step
    - loss: 1.2779 - accuracy: 0.4167 - val_loss: 1.1893
    - val_accuracy: 0.6667
```

```
29 Epoch 4/100
30 1/1 [=====] - 0s 14ms/step
    - loss: 1.2367 - accuracy: 0.5000 - val_loss: 1.1516
    - val_accuracy: 0.6167
31 Epoch 5/100
32 1/1 [=====] - 0s 16ms/step
    - loss: 1.1608 - accuracy: 0.5417 - val_loss: 1.1033
    - val_accuracy: 0.6333
33 Epoch 6/100
34 1/1 [=====] - 0s 14ms/step
    - loss: 1.1435 - accuracy: 0.5458 - val_loss: 1.0464
    - val_accuracy: 0.7000
35 Epoch 7/100
36 1/1 [=====] - 0s 14ms/step
    - loss: 1.0652 - accuracy: 0.6250 - val_loss: 1.0050
    - val_accuracy: 0.7000
37 Epoch 8/100
38 1/1 [=====] - 0s 15ms/step
    - loss: 1.0061 - accuracy: 0.6250 - val_loss: 0.9657
    - val_accuracy: 0.7167
39 Epoch 9/100
40 1/1 [=====] - 0s 15ms/step
    - loss: 1.0103 - accuracy: 0.6542 - val_loss: 0.9298
    - val_accuracy: 0.7167
41 Epoch 10/100
42 1/1 [=====] - 0s 14ms/step
    - loss: 0.9494 - accuracy: 0.6833 - val_loss: 0.8959
    - val_accuracy: 0.6500
43 Epoch 11/100
44 1/1 [=====] - 0s 13ms/step
    - loss: 0.8937 - accuracy: 0.6958 - val_loss: 0.8628
    - val_accuracy: 0.7333
45 Epoch 12/100
46 1/1 [=====] - 0s 15ms/step
    - loss: 0.8896 - accuracy: 0.6833 - val_loss: 0.8299
    - val_accuracy: 0.7333
47 Epoch 13/100
48 1/1 [=====] - 0s 14ms/step
    - loss: 0.8749 - accuracy: 0.6958 - val_loss: 0.7951
    - val_accuracy: 0.7333
49 Epoch 14/100
50 1/1 [=====] - 0s 14ms/step
    - loss: 0.8086 - accuracy: 0.7167 - val_loss: 0.7692
    - val_accuracy: 0.7333
```

```
51 Epoch 15/100
52 1/1 [=====] - 0s 14ms/step
    - loss: 0.7522 - accuracy: 0.7333 - val_loss: 0.7454
    - val_accuracy: 0.7667
53 Epoch 16/100
54 1/1 [=====] - 0s 14ms/step
    - loss: 0.7070 - accuracy: 0.7500 - val_loss: 0.7215
    - val_accuracy: 0.7500
55 Epoch 17/100
56 1/1 [=====] - 0s 14ms/step
    - loss: 0.7319 - accuracy: 0.7417 - val_loss: 0.6997
    - val_accuracy: 0.7667
57 Epoch 18/100
58 1/1 [=====] - 0s 15ms/step
    - loss: 0.6770 - accuracy: 0.7708 - val_loss: 0.6827
    - val_accuracy: 0.7833
59 Epoch 19/100
60 1/1 [=====] - 0s 15ms/step
    - loss: 0.6039 - accuracy: 0.7833 - val_loss: 0.6658
    - val_accuracy: 0.7667
61 Epoch 20/100
62 1/1 [=====] - 0s 14ms/step
    - loss: 0.6275 - accuracy: 0.7958 - val_loss: 0.6446
    - val_accuracy: 0.7833
63 Epoch 21/100
64 1/1 [=====] - 0s 15ms/step
    - loss: 0.6041 - accuracy: 0.8167 - val_loss: 0.6258
    - val_accuracy: 0.7667
65 Epoch 22/100
66 1/1 [=====] - 0s 14ms/step
    - loss: 0.6055 - accuracy: 0.7875 - val_loss: 0.6129
    - val_accuracy: 0.7667
67 Epoch 23/100
68 1/1 [=====] - 0s 14ms/step
    - loss: 0.5502 - accuracy: 0.8250 - val_loss: 0.6010
    - val_accuracy: 0.7667
69 Epoch 24/100
70 1/1 [=====] - 0s 14ms/step
    - loss: 0.5251 - accuracy: 0.8417 - val_loss: 0.5948
    - val_accuracy: 0.7833
71 Epoch 25/100
72 1/1 [=====] - 0s 14ms/step
    - loss: 0.5177 - accuracy: 0.8292 - val_loss: 0.5889
    - val_accuracy: 0.7833
```

```
73 Epoch 26/100
74 1/1 [=====] - 0s 15ms/step
    - loss: 0.5202 - accuracy: 0.8458 - val_loss: 0.
    5782 - val_accuracy: 0.7833
75 Epoch 27/100
76 1/1 [=====] - 0s 15ms/step
    - loss: 0.4559 - accuracy: 0.8375 - val_loss: 0.
    5694 - val_accuracy: 0.7833
77 Epoch 28/100
78 1/1 [=====] - 0s 14ms/step
    - loss: 0.4473 - accuracy: 0.8625 - val_loss: 0.
    5626 - val_accuracy: 0.7833
79 Epoch 29/100
80 1/1 [=====] - 0s 14ms/step
    - loss: 0.4346 - accuracy: 0.8542 - val_loss: 0.
    5571 - val_accuracy: 0.8000
81 Epoch 30/100
82 1/1 [=====] - 0s 14ms/step
    - loss: 0.4236 - accuracy: 0.8708 - val_loss: 0.
    5492 - val_accuracy: 0.8000
83 Epoch 31/100
84 1/1 [=====] - 0s 16ms/step
    - loss: 0.4244 - accuracy: 0.8583 - val_loss: 0.
    5489 - val_accuracy: 0.8167
85 Epoch 32/100
86 1/1 [=====] - 0s 15ms/step
    - loss: 0.3808 - accuracy: 0.8625 - val_loss: 0.
    5497 - val_accuracy: 0.8167
87 Epoch 33/100
88 1/1 [=====] - 0s 16ms/step
    - loss: 0.4142 - accuracy: 0.8417 - val_loss: 0.
    5383 - val_accuracy: 0.8000
89 Epoch 34/100
90 1/1 [=====] - 0s 15ms/step
    - loss: 0.3792 - accuracy: 0.8500 - val_loss: 0.
    5291 - val_accuracy: 0.8000
91 Epoch 35/100
92 1/1 [=====] - 0s 16ms/step
    - loss: 0.3578 - accuracy: 0.8833 - val_loss: 0.
    5319 - val_accuracy: 0.8167
93 Epoch 36/100
94 1/1 [=====] - 0s 20ms/step
    - loss: 0.3695 - accuracy: 0.8667 - val_loss: 0.
    5307 - val_accuracy: 0.8167
```

```
95 Epoch 37/100
96 1/1 [=====] - 0s 17ms/step
  - loss: 0.3166 - accuracy: 0.8917 - val_loss: 0.
  5303 - val_accuracy: 0.8167
97 Epoch 38/100
98 1/1 [=====] - 0s 16ms/step
  - loss: 0.3495 - accuracy: 0.8708 - val_loss: 0.
  5303 - val_accuracy: 0.8333
99 Epoch 39/100
100 1/1 [=====] - 0s 15ms/step
  - loss: 0.3018 - accuracy: 0.9000 - val_loss: 0.
  5279 - val_accuracy: 0.8500
101 Epoch 40/100
102 1/1 [=====] - 0s 15ms/step
  - loss: 0.3081 - accuracy: 0.8958 - val_loss: 0.
  5174 - val_accuracy: 0.8167
103 Epoch 41/100
104 1/1 [=====] - 0s 17ms/step
  - loss: 0.3081 - accuracy: 0.8958 - val_loss: 0.
  5215 - val_accuracy: 0.8000
105 Epoch 42/100
106 1/1 [=====] - 0s 15ms/step
  - loss: 0.3012 - accuracy: 0.9083 - val_loss: 0.
  5322 - val_accuracy: 0.8000
107 Epoch 43/100
108 1/1 [=====] - 0s 15ms/step
  - loss: 0.2960 - accuracy: 0.9083 - val_loss: 0.
  5203 - val_accuracy: 0.8000
109 Epoch 44/100
110 1/1 [=====] - 0s 16ms/step
  - loss: 0.2692 - accuracy: 0.9167 - val_loss: 0.
  5259 - val_accuracy: 0.8500
111 Epoch 45/100
112 1/1 [=====] - 0s 15ms/step
  - loss: 0.2650 - accuracy: 0.9042 - val_loss: 0.
  5465 - val_accuracy: 0.8333
113 Epoch 46/100
114 1/1 [=====] - 0s 15ms/step
  - loss: 0.2976 - accuracy: 0.8792 - val_loss: 0.
  5488 - val_accuracy: 0.8500
115 Epoch 47/100
116 1/1 [=====] - 0s 16ms/step
  - loss: 0.2689 - accuracy: 0.9000 - val_loss: 0.
  5312 - val_accuracy: 0.8333
```

```
117 Epoch 48/100
118 1/1 [=====] - 0s 15ms/step
      - loss: 0.2517 - accuracy: 0.9250 - val_loss: 0.
      5241 - val_accuracy: 0.8167
119 Epoch 49/100
120 1/1 [=====] - 0s 15ms/step
      - loss: 0.2651 - accuracy: 0.8875 - val_loss: 0.
      5190 - val_accuracy: 0.8000
121 Epoch 50/100
122 1/1 [=====] - 0s 15ms/step
      - loss: 0.2610 - accuracy: 0.9250 - val_loss: 0.
      5150 - val_accuracy: 0.8167
123 Epoch 51/100
124 1/1 [=====] - 0s 15ms/step
      - loss: 0.2319 - accuracy: 0.9292 - val_loss: 0.
      5199 - val_accuracy: 0.8500
125 Epoch 52/100
126 1/1 [=====] - 0s 15ms/step
      - loss: 0.2314 - accuracy: 0.9208 - val_loss: 0.
      5347 - val_accuracy: 0.8500
127 Epoch 53/100
128 1/1 [=====] - 0s 13ms/step
      - loss: 0.2473 - accuracy: 0.9167 - val_loss: 0.
      5440 - val_accuracy: 0.8333
129 Epoch 54/100
130 1/1 [=====] - 0s 15ms/step
      - loss: 0.2277 - accuracy: 0.9250 - val_loss: 0.
      5402 - val_accuracy: 0.8167
131 Epoch 55/100
132 1/1 [=====] - 0s 15ms/step
      - loss: 0.2208 - accuracy: 0.9208 - val_loss: 0.
      5303 - val_accuracy: 0.8167
133 Epoch 56/100
134 1/1 [=====] - 0s 14ms/step
      - loss: 0.1910 - accuracy: 0.9583 - val_loss: 0.
      5201 - val_accuracy: 0.8333
135 Epoch 57/100
136 1/1 [=====] - 0s 14ms/step
      - loss: 0.2089 - accuracy: 0.9417 - val_loss: 0.
      5107 - val_accuracy: 0.8333
137 Epoch 58/100
138 1/1 [=====] - 0s 14ms/step
      - loss: 0.1898 - accuracy: 0.9375 - val_loss: 0.
      5077 - val_accuracy: 0.8500
```

```
139 Epoch 59/100
140 1/1 [=====] - 0s 15ms/step
    - loss: 0.1715 - accuracy: 0.9583 - val_loss: 0.
    5138 - val_accuracy: 0.8667
141 Epoch 60/100
142 1/1 [=====] - 0s 16ms/step
    - loss: 0.1842 - accuracy: 0.9417 - val_loss: 0.
    5273 - val_accuracy: 0.8667
143 Epoch 61/100
144 1/1 [=====] - 0s 14ms/step
    - loss: 0.1504 - accuracy: 0.9667 - val_loss: 0.
    5413 - val_accuracy: 0.8333
145 Epoch 62/100
146 1/1 [=====] - 0s 15ms/step
    - loss: 0.1754 - accuracy: 0.9458 - val_loss: 0.
    5500 - val_accuracy: 0.8333
147 Epoch 63/100
148 1/1 [=====] - 0s 14ms/step
    - loss: 0.1696 - accuracy: 0.9583 - val_loss: 0.
    5434 - val_accuracy: 0.8333
149 Epoch 64/100
150 1/1 [=====] - 0s 14ms/step
    - loss: 0.1530 - accuracy: 0.9708 - val_loss: 0.
    5312 - val_accuracy: 0.8667
151 Epoch 65/100
152 1/1 [=====] - 0s 15ms/step
    - loss: 0.1645 - accuracy: 0.9667 - val_loss: 0.
    5251 - val_accuracy: 0.8667
153 Epoch 66/100
154 1/1 [=====] - 0s 14ms/step
    - loss: 0.1601 - accuracy: 0.9500 - val_loss: 0.
    5260 - val_accuracy: 0.8667
155 Epoch 67/100
156 1/1 [=====] - 0s 14ms/step
    - loss: 0.1413 - accuracy: 0.9542 - val_loss: 0.
    5319 - val_accuracy: 0.8667
157 Epoch 68/100
158 1/1 [=====] - 0s 15ms/step
    - loss: 0.1382 - accuracy: 0.9542 - val_loss: 0.
    5405 - val_accuracy: 0.8500
159 Epoch 69/100
160 1/1 [=====] - 0s 15ms/step
    - loss: 0.1362 - accuracy: 0.9792 - val_loss: 0.
    5470 - val_accuracy: 0.8500
```

```
161 Epoch 70/100
162 1/1 [=====] - 0s 14ms/step
    - loss: 0.1461 - accuracy: 0.9625 - val_loss: 0.
    5595 - val_accuracy: 0.8333
163 Epoch 71/100
164 1/1 [=====] - 0s 14ms/step
    - loss: 0.1487 - accuracy: 0.9583 - val_loss: 0.
    5665 - val_accuracy: 0.8500
165 Epoch 72/100
166 1/1 [=====] - 0s 16ms/step
    - loss: 0.1243 - accuracy: 0.9708 - val_loss: 0.
    5694 - val_accuracy: 0.8500
167 Epoch 73/100
168 1/1 [=====] - 0s 14ms/step
    - loss: 0.1063 - accuracy: 0.9792 - val_loss: 0.
    5789 - val_accuracy: 0.8167
169 Epoch 74/100
170 1/1 [=====] - 0s 13ms/step
    - loss: 0.1174 - accuracy: 0.9792 - val_loss: 0.
    5817 - val_accuracy: 0.8167
171 Epoch 75/100
172 1/1 [=====] - 0s 16ms/step
    - loss: 0.1078 - accuracy: 0.9833 - val_loss: 0.
    5813 - val_accuracy: 0.8500
173 Epoch 76/100
174 1/1 [=====] - 0s 17ms/step
    - loss: 0.1036 - accuracy: 0.9833 - val_loss: 0.
    5703 - val_accuracy: 0.8667
175 Epoch 77/100
176 1/1 [=====] - 0s 14ms/step
    - loss: 0.1149 - accuracy: 0.9625 - val_loss: 0.
    5776 - val_accuracy: 0.8500
177 Epoch 78/100
178 1/1 [=====] - 0s 15ms/step
    - loss: 0.1137 - accuracy: 0.9708 - val_loss: 0.
    5723 - val_accuracy: 0.8500
179 Epoch 79/100
180 1/1 [=====] - 0s 14ms/step
    - loss: 0.1057 - accuracy: 0.9792 - val_loss: 0.
    5805 - val_accuracy: 0.8500
181 Epoch 80/100
182 1/1 [=====] - 0s 14ms/step
    - loss: 0.1131 - accuracy: 0.9708 - val_loss: 0.
    5874 - val_accuracy: 0.8167
```

```
183 Epoch 81/100
184 1/1 [=====] - 0s 15ms/step
    - loss: 0.1062 - accuracy: 0.9750 - val_loss: 0.
    5762 - val_accuracy: 0.8500
185 Epoch 82/100
186 1/1 [=====] - 0s 14ms/step
    - loss: 0.1025 - accuracy: 0.9792 - val_loss: 0.
    5730 - val_accuracy: 0.8833
187 Epoch 83/100
188 1/1 [=====] - 0s 15ms/step
    - loss: 0.0981 - accuracy: 0.9750 - val_loss: 0.
    5771 - val_accuracy: 0.8833
189 Epoch 84/100
190 1/1 [=====] - 0s 14ms/step
    - loss: 0.0915 - accuracy: 0.9750 - val_loss: 0.
    5786 - val_accuracy: 0.8833
191 Epoch 85/100
192 1/1 [=====] - 0s 14ms/step
    - loss: 0.1070 - accuracy: 0.9708 - val_loss: 0.
    5809 - val_accuracy: 0.8500
193 Epoch 86/100
194 1/1 [=====] - 0s 14ms/step
    - loss: 0.1013 - accuracy: 0.9750 - val_loss: 0.
    5867 - val_accuracy: 0.8500
195 Epoch 87/100
196 1/1 [=====] - 0s 15ms/step
    - loss: 0.0870 - accuracy: 0.9792 - val_loss: 0.
    5932 - val_accuracy: 0.8500
197 Epoch 88/100
198 1/1 [=====] - 0s 14ms/step
    - loss: 0.0862 - accuracy: 0.9833 - val_loss: 0.
    6012 - val_accuracy: 0.8667
199 Epoch 89/100
200 1/1 [=====] - 0s 14ms/step
    - loss: 0.0901 - accuracy: 0.9792 - val_loss: 0.
    6102 - val_accuracy: 0.8667
201 Epoch 90/100
202 1/1 [=====] - 0s 15ms/step
    - loss: 0.0837 - accuracy: 0.9833 - val_loss: 0.
    6092 - val_accuracy: 0.8667
203 Epoch 91/100
204 1/1 [=====] - 0s 15ms/step
    - loss: 0.0908 - accuracy: 0.9833 - val_loss: 0.
    6033 - val_accuracy: 0.8667
```

```
205 Epoch 92/100
206 1/1 [=====] - 0s 14ms/step
    - loss: 0.0804 - accuracy: 0.9833 - val_loss: 0.
    5940 - val_accuracy: 0.8667
207 Epoch 93/100
208 1/1 [=====] - 0s 16ms/step
    - loss: 0.0871 - accuracy: 0.9792 - val_loss: 0.
    5814 - val_accuracy: 0.8667
209 Epoch 94/100
210 1/1 [=====] - 0s 14ms/step
    - loss: 0.0724 - accuracy: 1.0000 - val_loss: 0.
    5740 - val_accuracy: 0.8833
211 Epoch 95/100
212 1/1 [=====] - 0s 15ms/step
    - loss: 0.0855 - accuracy: 0.9917 - val_loss: 0.
    5770 - val_accuracy: 0.8833
213 Epoch 96/100
214 1/1 [=====] - 0s 15ms/step
    - loss: 0.0810 - accuracy: 0.9833 - val_loss: 0.
    5842 - val_accuracy: 0.8833
215 Epoch 97/100
216 1/1 [=====] - 0s 15ms/step
    - loss: 0.0745 - accuracy: 0.9792 - val_loss: 0.
    5919 - val_accuracy: 0.8667
217 Epoch 98/100
218 1/1 [=====] - 0s 15ms/step
    - loss: 0.0680 - accuracy: 0.9875 - val_loss: 0.
    6104 - val_accuracy: 0.8667
219 Epoch 99/100
220 1/1 [=====] - 0s 14ms/step
    - loss: 0.0602 - accuracy: 0.9875 - val_loss: 0.
    6295 - val_accuracy: 0.8500
221 Epoch 100/100
222 1/1 [=====] - 0s 14ms/step
    - loss: 0.0627 - accuracy: 0.9917 - val_loss: 0.
    6368 - val_accuracy: 0.8500
223
224 Duration of training
225 --- 8.36951994895935 seconds ---
226
227 Predicting...
228 2/2 [=====] - 0s 1ms/step
    - loss: 0.6368 - accuracy: 0.8500
229 score = [0.6368292570114136, 0.8500000238418579]
```

```
230
231 Duration of prediction
232 --- 0.03745007514953613 seconds ---
233
234 --- Comparison of actual vs predicted ---
235 Actual: Apple Predicted: Apple
236 Actual: Apple Predicted: Apple
237 Actual: Apple Predicted: Apple
238 Actual: Apple Predicted: Apple
239 Actual: Apple Predicted: Apple
240 Actual: Apple Predicted: Apple
241 Actual: Apple Predicted: Apple
242 Actual: Apple Predicted: Apple
243 Actual: Apple Predicted: Apple
244 Actual: Apple Predicted: Apple
245 Actual: Apple Predicted: Apple
246 Actual: Apple Predicted: Apple
247 Actual: Apple Predicted: Apple
248 Actual: Apple Predicted: Apple
249 Actual: Apple Predicted: Apple
250 Actual: Apple Predicted: Apple
251 Actual: Apple Predicted: Apple
252 Actual: Apple Predicted: Apple
253 Actual: Apple Predicted: Apple
254 Actual: Banana Predicted: Banana
255 Actual: Banana Predicted: Banana
256 Actual: Banana Predicted: Banana
257 Actual: Banana Predicted: Banana
258 Actual: Banana Predicted: Banana
259 Actual: Banana Predicted: Banana
260 Actual: Banana Predicted: Banana
261 Actual: Banana Predicted: Banana
262 Actual: Banana Predicted: Banana
263 Actual: Banana Predicted: Mixed Fruits
264 Actual: Banana Predicted: Banana
265 Actual: Banana Predicted: Apple
266 Actual: Banana Predicted: Banana
267 Actual: Banana Predicted: Banana
268 Actual: Banana Predicted: Banana
269 Actual: Banana Predicted: Banana
270 Actual: Banana Predicted: Banana
271 Actual: Banana Predicted: Banana
272 Actual: Mixed Fruits Predicted: Orange
273 Actual: Mixed Fruits Predicted: Banana
```

```
274 Actual: Mixed Fruits Predicted: Apple
275 Actual: Mixed Fruits Predicted: Banana
276 Actual: Mixed Fruits Predicted: Apple
277 Actual: Orange Predicted: Apple
278 Actual: Orange Predicted: Orange
279 Actual: Orange Predicted: Orange
280 Actual: Orange Predicted: Orange
281 Actual: Orange Predicted: Orange
282 Actual: Orange Predicted: Orange
283 Actual: Orange Predicted: Orange
284 Actual: Orange Predicted: Orange
285 Actual: Orange Predicted: Orange
286 Actual: Orange Predicted: Orange
287 Actual: Orange Predicted: Orange
288 Actual: Orange Predicted: Orange
289 Actual: Orange Predicted: Apple
290 Actual: Orange Predicted: Orange
291 Actual: Orange Predicted: Orange
292 Actual: Orange Predicted: Orange
293 Actual: Orange Predicted: Orange
294 Actual: Orange Predicted: Orange
295 Epoch 1/300
296 1/1 [=====] - 0s 114ms/step
    - loss: 1.5264 - accuracy: 0.1917 - val_loss: 1.
    4500 - val_accuracy: 0.2167
297 Epoch 2/300
298 1/1 [=====] - 0s 16ms/step
    - loss: 1.4720 - accuracy: 0.2708 - val_loss: 1.
    3925 - val_accuracy: 0.3333
299 Epoch 3/300
300 1/1 [=====] - 0s 15ms/step
    - loss: 1.4082 - accuracy: 0.2792 - val_loss: 1.
    3501 - val_accuracy: 0.3833
301 Epoch 4/300
302 1/1 [=====] - 0s 15ms/step
    - loss: 1.3969 - accuracy: 0.3083 - val_loss: 1.
    3193 - val_accuracy: 0.4333
303 Epoch 5/300
304 1/1 [=====] - 0s 14ms/step
    - loss: 1.3195 - accuracy: 0.3667 - val_loss: 1.
    2983 - val_accuracy: 0.4833
305 Epoch 6/300
306 1/1 [=====] - 0s 15ms/step
    - loss: 1.3448 - accuracy: 0.3375 - val_loss: 1.
```

```
306 2845 - val_accuracy: 0.4333
307 Epoch 7/300
308 1/1 [=====] - 0s 14ms/step
    - loss: 1.3237 - accuracy: 0.3417 - val_loss: 1.
    2748 - val_accuracy: 0.4500
309 Epoch 8/300
310 1/1 [=====] - 0s 15ms/step
    - loss: 1.2655 - accuracy: 0.3667 - val_loss: 1.
    2662 - val_accuracy: 0.4833
311 Epoch 9/300
312 1/1 [=====] - 0s 15ms/step
    - loss: 1.2740 - accuracy: 0.4000 - val_loss: 1.
    2580 - val_accuracy: 0.4833
313 Epoch 10/300
314 1/1 [=====] - 0s 15ms/step
    - loss: 1.2808 - accuracy: 0.3875 - val_loss: 1.
    2496 - val_accuracy: 0.5500
315 Epoch 11/300
316 1/1 [=====] - 0s 14ms/step
    - loss: 1.2582 - accuracy: 0.4250 - val_loss: 1.
    2412 - val_accuracy: 0.5333
317 Epoch 12/300
318 1/1 [=====] - 0s 14ms/step
    - loss: 1.2760 - accuracy: 0.4167 - val_loss: 1.
    2331 - val_accuracy: 0.5833
319 Epoch 13/300
320 1/1 [=====] - 0s 14ms/step
    - loss: 1.2737 - accuracy: 0.4208 - val_loss: 1.
    2245 - val_accuracy: 0.6000
321 Epoch 14/300
322 1/1 [=====] - 0s 14ms/step
    - loss: 1.2144 - accuracy: 0.4583 - val_loss: 1.
    2158 - val_accuracy: 0.5833
323 Epoch 15/300
324 1/1 [=====] - 0s 16ms/step
    - loss: 1.1859 - accuracy: 0.5333 - val_loss: 1.
    2072 - val_accuracy: 0.5833
325 Epoch 16/300
326 1/1 [=====] - 0s 15ms/step
    - loss: 1.2192 - accuracy: 0.5083 - val_loss: 1.
    1983 - val_accuracy: 0.6000
327 Epoch 17/300
328 1/1 [=====] - 0s 15ms/step
    - loss: 1.2002 - accuracy: 0.4958 - val_loss: 1.
```

```
328 1891 - val_accuracy: 0.6167
329 Epoch 18/300
330 1/1 [=====] - 0s 17ms/step
    - loss: 1.1979 - accuracy: 0.5125 - val_loss: 1.
    1798 - val_accuracy: 0.6167
331 Epoch 19/300
332 1/1 [=====] - 0s 14ms/step
    - loss: 1.1521 - accuracy: 0.5167 - val_loss: 1.
    1706 - val_accuracy: 0.6333
333 Epoch 20/300
334 1/1 [=====] - 0s 15ms/step
    - loss: 1.1714 - accuracy: 0.5667 - val_loss: 1.
    1615 - val_accuracy: 0.6333
335 Epoch 21/300
336 1/1 [=====] - 0s 15ms/step
    - loss: 1.1120 - accuracy: 0.6292 - val_loss: 1.
    1519 - val_accuracy: 0.6500
337 Epoch 22/300
338 1/1 [=====] - 0s 14ms/step
    - loss: 1.1524 - accuracy: 0.6042 - val_loss: 1.
    1425 - val_accuracy: 0.6500
339 Epoch 23/300
340 1/1 [=====] - 0s 14ms/step
    - loss: 1.1459 - accuracy: 0.5750 - val_loss: 1.
    1330 - val_accuracy: 0.6833
341 Epoch 24/300
342 1/1 [=====] - 0s 14ms/step
    - loss: 1.1144 - accuracy: 0.6375 - val_loss: 1.
    1235 - val_accuracy: 0.6833
343 Epoch 25/300
344 1/1 [=====] - 0s 14ms/step
    - loss: 1.1054 - accuracy: 0.6042 - val_loss: 1.
    1139 - val_accuracy: 0.7000
345 Epoch 26/300
346 1/1 [=====] - 0s 14ms/step
    - loss: 1.0858 - accuracy: 0.6292 - val_loss: 1.
    1044 - val_accuracy: 0.7000
347 Epoch 27/300
348 1/1 [=====] - 0s 15ms/step
    - loss: 1.0880 - accuracy: 0.6458 - val_loss: 1.
    0945 - val_accuracy: 0.6833
349 Epoch 28/300
350 1/1 [=====] - 0s 14ms/step
    - loss: 1.0865 - accuracy: 0.6500 - val_loss: 1.
```

```
350 0844 - val_accuracy: 0.7000
351 Epoch 29/300
352 1/1 [=====] - 0s 14ms/step
    - loss: 1.0673 - accuracy: 0.6667 - val_loss: 1.
    0742 - val_accuracy: 0.6833
353 Epoch 30/300
354 1/1 [=====] - 0s 14ms/step
    - loss: 1.0612 - accuracy: 0.6667 - val_loss: 1.
    0639 - val_accuracy: 0.7000
355 Epoch 31/300
356 1/1 [=====] - 0s 15ms/step
    - loss: 1.0568 - accuracy: 0.6583 - val_loss: 1.
    0535 - val_accuracy: 0.7167
357 Epoch 32/300
358 1/1 [=====] - 0s 14ms/step
    - loss: 1.0327 - accuracy: 0.6667 - val_loss: 1.
    0427 - val_accuracy: 0.7333
359 Epoch 33/300
360 1/1 [=====] - 0s 14ms/step
    - loss: 1.0309 - accuracy: 0.6500 - val_loss: 1.
    0314 - val_accuracy: 0.7333
361 Epoch 34/300
362 1/1 [=====] - 0s 15ms/step
    - loss: 1.0037 - accuracy: 0.7125 - val_loss: 1.
    0198 - val_accuracy: 0.7333
363 Epoch 35/300
364 1/1 [=====] - 0s 15ms/step
    - loss: 0.9920 - accuracy: 0.7083 - val_loss: 1.
    0079 - val_accuracy: 0.7167
365 Epoch 36/300
366 1/1 [=====] - 0s 15ms/step
    - loss: 0.9983 - accuracy: 0.6792 - val_loss: 0.
    9962 - val_accuracy: 0.7333
367 Epoch 37/300
368 1/1 [=====] - 0s 15ms/step
    - loss: 0.9725 - accuracy: 0.7250 - val_loss: 0.
    9849 - val_accuracy: 0.7333
369 Epoch 38/300
370 1/1 [=====] - 0s 14ms/step
    - loss: 0.9675 - accuracy: 0.7167 - val_loss: 0.
    9736 - val_accuracy: 0.7333
371 Epoch 39/300
372 1/1 [=====] - 0s 15ms/step
    - loss: 0.9419 - accuracy: 0.7083 - val_loss: 0.
```

```
372 9622 - val_accuracy: 0.7333
373 Epoch 40/300
374 1/1 [=====] - 0s 14ms/step
    - loss: 0.9345 - accuracy: 0.7458 - val_loss: 0.
    9506 - val_accuracy: 0.7333
375 Epoch 41/300
376 1/1 [=====] - 0s 14ms/step
    - loss: 0.9067 - accuracy: 0.7167 - val_loss: 0.
    9387 - val_accuracy: 0.7333
377 Epoch 42/300
378 1/1 [=====] - 0s 15ms/step
    - loss: 0.9149 - accuracy: 0.7292 - val_loss: 0.
    9274 - val_accuracy: 0.7333
379 Epoch 43/300
380 1/1 [=====] - 0s 14ms/step
    - loss: 0.9091 - accuracy: 0.7250 - val_loss: 0.
    9164 - val_accuracy: 0.7667
381 Epoch 44/300
382 1/1 [=====] - 0s 14ms/step
    - loss: 0.8972 - accuracy: 0.7458 - val_loss: 0.
    9056 - val_accuracy: 0.7833
383 Epoch 45/300
384 1/1 [=====] - 0s 14ms/step
    - loss: 0.8862 - accuracy: 0.7417 - val_loss: 0.
    8944 - val_accuracy: 0.7833
385 Epoch 46/300
386 1/1 [=====] - 0s 12ms/step
    - loss: 0.8441 - accuracy: 0.7625 - val_loss: 0.
    8834 - val_accuracy: 0.8000
387 Epoch 47/300
388 1/1 [=====] - 0s 14ms/step
    - loss: 0.8695 - accuracy: 0.7292 - val_loss: 0.
    8728 - val_accuracy: 0.8000
389 Epoch 48/300
390 1/1 [=====] - 0s 18ms/step
    - loss: 0.8440 - accuracy: 0.7458 - val_loss: 0.
    8621 - val_accuracy: 0.8000
391 Epoch 49/300
392 1/1 [=====] - 0s 16ms/step
    - loss: 0.8210 - accuracy: 0.7667 - val_loss: 0.
    8506 - val_accuracy: 0.8000
393 Epoch 50/300
394 1/1 [=====] - 0s 15ms/step
    - loss: 0.8146 - accuracy: 0.7625 - val_loss: 0.
```

```
394 8392 - val_accuracy: 0.7833
395 Epoch 51/300
396 1/1 [=====] - 0s 14ms/step
    - loss: 0.7997 - accuracy: 0.7667 - val_loss: 0.
    8279 - val_accuracy: 0.7667
397 Epoch 52/300
398 1/1 [=====] - 0s 14ms/step
    - loss: 0.7539 - accuracy: 0.7875 - val_loss: 0.
    8165 - val_accuracy: 0.7667
399 Epoch 53/300
400 1/1 [=====] - 0s 14ms/step
    - loss: 0.7912 - accuracy: 0.7792 - val_loss: 0.
    8053 - val_accuracy: 0.7667
401 Epoch 54/300
402 1/1 [=====] - 0s 14ms/step
    - loss: 0.7552 - accuracy: 0.7917 - val_loss: 0.
    7943 - val_accuracy: 0.7667
403 Epoch 55/300
404 1/1 [=====] - 0s 14ms/step
    - loss: 0.7396 - accuracy: 0.8000 - val_loss: 0.
    7837 - val_accuracy: 0.8000
405 Epoch 56/300
406 1/1 [=====] - 0s 13ms/step
    - loss: 0.7275 - accuracy: 0.7875 - val_loss: 0.
    7737 - val_accuracy: 0.8000
407 Epoch 57/300
408 1/1 [=====] - 0s 15ms/step
    - loss: 0.7181 - accuracy: 0.7833 - val_loss: 0.
    7643 - val_accuracy: 0.8000
409 Epoch 58/300
410 1/1 [=====] - 0s 15ms/step
    - loss: 0.7135 - accuracy: 0.7917 - val_loss: 0.
    7554 - val_accuracy: 0.8167
411 Epoch 59/300
412 1/1 [=====] - 0s 15ms/step
    - loss: 0.7128 - accuracy: 0.7917 - val_loss: 0.
    7471 - val_accuracy: 0.8167
413 Epoch 60/300
414 1/1 [=====] - 0s 14ms/step
    - loss: 0.7043 - accuracy: 0.7750 - val_loss: 0.
    7390 - val_accuracy: 0.8167
415 Epoch 61/300
416 1/1 [=====] - 0s 15ms/step
    - loss: 0.6852 - accuracy: 0.7833 - val_loss: 0.
```

```
416 7307 - val_accuracy: 0.8167
417 Epoch 62/300
418 1/1 [=====] - 0s 13ms/step
    - loss: 0.6673 - accuracy: 0.7917 - val_loss: 0.
    7224 - val_accuracy: 0.8000
419 Epoch 63/300
420 1/1 [=====] - 0s 13ms/step
    - loss: 0.6740 - accuracy: 0.7958 - val_loss: 0.
    7133 - val_accuracy: 0.8000
421 Epoch 64/300
422 1/1 [=====] - 0s 14ms/step
    - loss: 0.6571 - accuracy: 0.7917 - val_loss: 0.
    7047 - val_accuracy: 0.8000
423 Epoch 65/300
424 1/1 [=====] - 0s 14ms/step
    - loss: 0.6774 - accuracy: 0.7917 - val_loss: 0.
    6969 - val_accuracy: 0.8000
425 Epoch 66/300
426 1/1 [=====] - 0s 15ms/step
    - loss: 0.6384 - accuracy: 0.8125 - val_loss: 0.
    6897 - val_accuracy: 0.8000
427 Epoch 67/300
428 1/1 [=====] - 0s 14ms/step
    - loss: 0.6315 - accuracy: 0.8167 - val_loss: 0.
    6833 - val_accuracy: 0.8000
429 Epoch 68/300
430 1/1 [=====] - 0s 13ms/step
    - loss: 0.6135 - accuracy: 0.8083 - val_loss: 0.
    6773 - val_accuracy: 0.8000
431 Epoch 69/300
432 1/1 [=====] - 0s 14ms/step
    - loss: 0.6215 - accuracy: 0.8000 - val_loss: 0.
    6714 - val_accuracy: 0.8000
433 Epoch 70/300
434 1/1 [=====] - 0s 14ms/step
    - loss: 0.6010 - accuracy: 0.8000 - val_loss: 0.
    6656 - val_accuracy: 0.8333
435 Epoch 71/300
436 1/1 [=====] - 0s 14ms/step
    - loss: 0.5942 - accuracy: 0.8125 - val_loss: 0.
    6604 - val_accuracy: 0.8500
437 Epoch 72/300
438 1/1 [=====] - 0s 14ms/step
    - loss: 0.6047 - accuracy: 0.8167 - val_loss: 0.
```

```
438 6554 - val_accuracy: 0.8500
439 Epoch 73/300
440 1/1 [=====] - 0s 14ms/step
    - loss: 0.6076 - accuracy: 0.7875 - val_loss: 0.
    6515 - val_accuracy: 0.8167
441 Epoch 74/300
442 1/1 [=====] - 0s 14ms/step
    - loss: 0.5755 - accuracy: 0.8167 - val_loss: 0.
    6483 - val_accuracy: 0.8167
443 Epoch 75/300
444 1/1 [=====] - 0s 14ms/step
    - loss: 0.5792 - accuracy: 0.8208 - val_loss: 0.
    6422 - val_accuracy: 0.8167
445 Epoch 76/300
446 1/1 [=====] - 0s 15ms/step
    - loss: 0.5248 - accuracy: 0.8375 - val_loss: 0.
    6350 - val_accuracy: 0.8167
447 Epoch 77/300
448 1/1 [=====] - 0s 15ms/step
    - loss: 0.5488 - accuracy: 0.8208 - val_loss: 0.
    6278 - val_accuracy: 0.8333
449 Epoch 78/300
450 1/1 [=====] - 0s 15ms/step
    - loss: 0.5243 - accuracy: 0.8542 - val_loss: 0.
    6227 - val_accuracy: 0.8500
451 Epoch 79/300
452 1/1 [=====] - 0s 13ms/step
    - loss: 0.5178 - accuracy: 0.8500 - val_loss: 0.
    6180 - val_accuracy: 0.8500
453 Epoch 80/300
454 1/1 [=====] - 0s 15ms/step
    - loss: 0.5338 - accuracy: 0.8375 - val_loss: 0.
    6135 - val_accuracy: 0.8500
455 Epoch 81/300
456 1/1 [=====] - 0s 15ms/step
    - loss: 0.5387 - accuracy: 0.8208 - val_loss: 0.
    6093 - val_accuracy: 0.8333
457 Epoch 82/300
458 1/1 [=====] - 0s 14ms/step
    - loss: 0.5251 - accuracy: 0.8375 - val_loss: 0.
    6065 - val_accuracy: 0.8333
459 Epoch 83/300
460 1/1 [=====] - 0s 14ms/step
    - loss: 0.5020 - accuracy: 0.8667 - val_loss: 0.
```

```
460 6047 - val_accuracy: 0.8500
461 Epoch 84/300
462 1/1 [=====] - 0s 14ms/step
    - loss: 0.4809 - accuracy: 0.8542 - val_loss: 0.
    6022 - val_accuracy: 0.8333
463 Epoch 85/300
464 1/1 [=====] - 0s 14ms/step
    - loss: 0.5118 - accuracy: 0.8375 - val_loss: 0.
    5979 - val_accuracy: 0.8500
465 Epoch 86/300
466 1/1 [=====] - 0s 14ms/step
    - loss: 0.5163 - accuracy: 0.8250 - val_loss: 0.
    5905 - val_accuracy: 0.8500
467 Epoch 87/300
468 1/1 [=====] - 0s 15ms/step
    - loss: 0.5140 - accuracy: 0.8333 - val_loss: 0.
    5843 - val_accuracy: 0.8500
469 Epoch 88/300
470 1/1 [=====] - 0s 15ms/step
    - loss: 0.4751 - accuracy: 0.8417 - val_loss: 0.
    5799 - val_accuracy: 0.8333
471 Epoch 89/300
472 1/1 [=====] - 0s 14ms/step
    - loss: 0.4735 - accuracy: 0.8750 - val_loss: 0.
    5767 - val_accuracy: 0.8333
473 Epoch 90/300
474 1/1 [=====] - 0s 13ms/step
    - loss: 0.5087 - accuracy: 0.8292 - val_loss: 0.
    5742 - val_accuracy: 0.8333
475 Epoch 91/300
476 1/1 [=====] - 0s 14ms/step
    - loss: 0.4847 - accuracy: 0.8417 - val_loss: 0.
    5730 - val_accuracy: 0.8333
477 Epoch 92/300
478 1/1 [=====] - 0s 14ms/step
    - loss: 0.4561 - accuracy: 0.8708 - val_loss: 0.
    5737 - val_accuracy: 0.8333
479 Epoch 93/300
480 1/1 [=====] - 0s 14ms/step
    - loss: 0.4824 - accuracy: 0.8375 - val_loss: 0.
    5742 - val_accuracy: 0.8333
481 Epoch 94/300
482 1/1 [=====] - 0s 14ms/step
    - loss: 0.4697 - accuracy: 0.8500 - val_loss: 0.
```

```
482 5732 - val_accuracy: 0.8333
483 Epoch 95/300
484 1/1 [=====] - 0s 15ms/step
    - loss: 0.4658 - accuracy: 0.8500 - val_loss: 0.
    5691 - val_accuracy: 0.8333
485 Epoch 96/300
486 1/1 [=====] - 0s 14ms/step
    - loss: 0.4502 - accuracy: 0.8625 - val_loss: 0.
    5641 - val_accuracy: 0.8500
487 Epoch 97/300
488 1/1 [=====] - 0s 14ms/step
    - loss: 0.4270 - accuracy: 0.8625 - val_loss: 0.
    5602 - val_accuracy: 0.8500
489 Epoch 98/300
490 1/1 [=====] - 0s 14ms/step
    - loss: 0.4354 - accuracy: 0.8542 - val_loss: 0.
    5575 - val_accuracy: 0.8500
491 Epoch 99/300
492 1/1 [=====] - 0s 13ms/step
    - loss: 0.4325 - accuracy: 0.8708 - val_loss: 0.
    5552 - val_accuracy: 0.8500
493 Epoch 100/300
494 1/1 [=====] - 0s 14ms/step
    - loss: 0.4318 - accuracy: 0.8625 - val_loss: 0.
    5532 - val_accuracy: 0.8500
495 Epoch 101/300
496 1/1 [=====] - 0s 13ms/step
    - loss: 0.4312 - accuracy: 0.8667 - val_loss: 0.
    5523 - val_accuracy: 0.8500
497 Epoch 102/300
498 1/1 [=====] - 0s 14ms/step
    - loss: 0.4283 - accuracy: 0.8708 - val_loss: 0.
    5520 - val_accuracy: 0.8500
499 Epoch 103/300
500 1/1 [=====] - 0s 14ms/step
    - loss: 0.4212 - accuracy: 0.8708 - val_loss: 0.
    5508 - val_accuracy: 0.8500
501 Epoch 104/300
502 1/1 [=====] - 0s 13ms/step
    - loss: 0.4017 - accuracy: 0.8583 - val_loss: 0.
    5481 - val_accuracy: 0.8500
503 Epoch 105/300
504 1/1 [=====] - 0s 14ms/step
    - loss: 0.4030 - accuracy: 0.8792 - val_loss: 0.
```

```
504 5441 - val_accuracy: 0.8500
505 Epoch 106/300
506 1/1 [=====] - 0s 14ms/step
    - loss: 0.4271 - accuracy: 0.8625 - val_loss: 0.
    5406 - val_accuracy: 0.8667
507 Epoch 107/300
508 1/1 [=====] - 0s 14ms/step
    - loss: 0.4137 - accuracy: 0.8458 - val_loss: 0.
    5387 - val_accuracy: 0.8667
509 Epoch 108/300
510 1/1 [=====] - 0s 14ms/step
    - loss: 0.4003 - accuracy: 0.9000 - val_loss: 0.
    5383 - val_accuracy: 0.8667
511 Epoch 109/300
512 1/1 [=====] - 0s 15ms/step
    - loss: 0.4120 - accuracy: 0.8667 - val_loss: 0.
    5397 - val_accuracy: 0.8500
513 Epoch 110/300
514 1/1 [=====] - 0s 14ms/step
    - loss: 0.3842 - accuracy: 0.8708 - val_loss: 0.
    5415 - val_accuracy: 0.8500
515 Epoch 111/300
516 1/1 [=====] - 0s 15ms/step
    - loss: 0.3587 - accuracy: 0.8917 - val_loss: 0.
    5425 - val_accuracy: 0.8500
517 Epoch 112/300
518 1/1 [=====] - 0s 13ms/step
    - loss: 0.4040 - accuracy: 0.8708 - val_loss: 0.
    5415 - val_accuracy: 0.8500
519 Epoch 113/300
520 1/1 [=====] - 0s 15ms/step
    - loss: 0.3860 - accuracy: 0.8917 - val_loss: 0.
    5386 - val_accuracy: 0.8500
521 Epoch 114/300
522 1/1 [=====] - 0s 15ms/step
    - loss: 0.4216 - accuracy: 0.8375 - val_loss: 0.
    5352 - val_accuracy: 0.8500
523 Epoch 115/300
524 1/1 [=====] - 0s 14ms/step
    - loss: 0.3869 - accuracy: 0.8833 - val_loss: 0.
    5310 - val_accuracy: 0.8500
525 Epoch 116/300
526 1/1 [=====] - 0s 14ms/step
    - loss: 0.3736 - accuracy: 0.9083 - val_loss: 0.
```

```
526 5277 - val_accuracy: 0.8500
527 Epoch 117/300
528 1/1 [=====] - 0s 14ms/step
    - loss: 0.3817 - accuracy: 0.8833 - val_loss: 0.
    5256 - val_accuracy: 0.8667
529 Epoch 118/300
530 1/1 [=====] - 0s 14ms/step
    - loss: 0.3685 - accuracy: 0.8792 - val_loss: 0.
    5240 - val_accuracy: 0.8667
531 Epoch 119/300
532 1/1 [=====] - 0s 15ms/step
    - loss: 0.3792 - accuracy: 0.8792 - val_loss: 0.
    5239 - val_accuracy: 0.8667
533 Epoch 120/300
534 1/1 [=====] - 0s 14ms/step
    - loss: 0.3841 - accuracy: 0.8708 - val_loss: 0.
    5257 - val_accuracy: 0.8500
535 Epoch 121/300
536 1/1 [=====] - 0s 13ms/step
    - loss: 0.3428 - accuracy: 0.9125 - val_loss: 0.
    5285 - val_accuracy: 0.8500
537 Epoch 122/300
538 1/1 [=====] - 0s 15ms/step
    - loss: 0.3973 - accuracy: 0.8792 - val_loss: 0.
    5299 - val_accuracy: 0.8500
539 Epoch 123/300
540 1/1 [=====] - 0s 14ms/step
    - loss: 0.3781 - accuracy: 0.8833 - val_loss: 0.
    5280 - val_accuracy: 0.8500
541 Epoch 124/300
542 1/1 [=====] - 0s 14ms/step
    - loss: 0.3368 - accuracy: 0.9083 - val_loss: 0.
    5248 - val_accuracy: 0.8500
543 Epoch 125/300
544 1/1 [=====] - 0s 14ms/step
    - loss: 0.3529 - accuracy: 0.9083 - val_loss: 0.
    5216 - val_accuracy: 0.8500
545 Epoch 126/300
546 1/1 [=====] - 0s 14ms/step
    - loss: 0.3561 - accuracy: 0.8833 - val_loss: 0.
    5197 - val_accuracy: 0.8667
547 Epoch 127/300
548 1/1 [=====] - 0s 15ms/step
    - loss: 0.3713 - accuracy: 0.8875 - val_loss: 0.
```

```
548 5187 - val_accuracy: 0.8667
549 Epoch 128/300
550 1/1 [=====] - 0s 14ms/step
    - loss: 0.3554 - accuracy: 0.8875 - val_loss: 0.
    5177 - val_accuracy: 0.8667
551 Epoch 129/300
552 1/1 [=====] - 0s 14ms/step
    - loss: 0.3402 - accuracy: 0.8875 - val_loss: 0.
    5161 - val_accuracy: 0.8500
553 Epoch 130/300
554 1/1 [=====] - 0s 14ms/step
    - loss: 0.3373 - accuracy: 0.8958 - val_loss: 0.
    5146 - val_accuracy: 0.8500
555 Epoch 131/300
556 1/1 [=====] - 0s 13ms/step
    - loss: 0.3470 - accuracy: 0.8917 - val_loss: 0.
    5141 - val_accuracy: 0.8500
557 Epoch 132/300
558 1/1 [=====] - 0s 14ms/step
    - loss: 0.3471 - accuracy: 0.8792 - val_loss: 0.
    5136 - val_accuracy: 0.8500
559 Epoch 133/300
560 1/1 [=====] - 0s 14ms/step
    - loss: 0.3442 - accuracy: 0.9042 - val_loss: 0.
    5127 - val_accuracy: 0.8500
561 Epoch 134/300
562 1/1 [=====] - 0s 15ms/step
    - loss: 0.3390 - accuracy: 0.8958 - val_loss: 0.
    5124 - val_accuracy: 0.8500
563 Epoch 135/300
564 1/1 [=====] - 0s 14ms/step
    - loss: 0.3351 - accuracy: 0.8958 - val_loss: 0.
    5126 - val_accuracy: 0.8500
565 Epoch 136/300
566 1/1 [=====] - 0s 15ms/step
    - loss: 0.3234 - accuracy: 0.9083 - val_loss: 0.
    5136 - val_accuracy: 0.8500
567 Epoch 137/300
568 1/1 [=====] - 0s 15ms/step
    - loss: 0.3451 - accuracy: 0.8958 - val_loss: 0.
    5145 - val_accuracy: 0.8667
569 Epoch 138/300
570 1/1 [=====] - 0s 15ms/step
    - loss: 0.3273 - accuracy: 0.9042 - val_loss: 0.
```

```
570 5135 - val_accuracy: 0.8667
571 Epoch 139/300
572 1/1 [=====] - 0s 14ms/step
    - loss: 0.3194 - accuracy: 0.9125 - val_loss: 0.
    5123 - val_accuracy: 0.8500
573 Epoch 140/300
574 1/1 [=====] - 0s 14ms/step
    - loss: 0.3141 - accuracy: 0.9125 - val_loss: 0.
    5113 - val_accuracy: 0.8500
575 Epoch 141/300
576 1/1 [=====] - 0s 14ms/step
    - loss: 0.3492 - accuracy: 0.8667 - val_loss: 0.
    5105 - val_accuracy: 0.8500
577 Epoch 142/300
578 1/1 [=====] - 0s 14ms/step
    - loss: 0.3026 - accuracy: 0.9042 - val_loss: 0.
    5097 - val_accuracy: 0.8500
579 Epoch 143/300
580 1/1 [=====] - 0s 14ms/step
    - loss: 0.3304 - accuracy: 0.9000 - val_loss: 0.
    5097 - val_accuracy: 0.8500
581 Epoch 144/300
582 1/1 [=====] - 0s 15ms/step
    - loss: 0.3408 - accuracy: 0.8708 - val_loss: 0.
    5110 - val_accuracy: 0.8500
583 Epoch 145/300
584 1/1 [=====] - 0s 14ms/step
    - loss: 0.3193 - accuracy: 0.8917 - val_loss: 0.
    5118 - val_accuracy: 0.8500
585 Epoch 146/300
586 1/1 [=====] - 0s 14ms/step
    - loss: 0.3340 - accuracy: 0.9083 - val_loss: 0.
    5106 - val_accuracy: 0.8667
587 Epoch 147/300
588 1/1 [=====] - 0s 15ms/step
    - loss: 0.2967 - accuracy: 0.9083 - val_loss: 0.
    5089 - val_accuracy: 0.8667
589 Epoch 148/300
590 1/1 [=====] - 0s 15ms/step
    - loss: 0.2816 - accuracy: 0.9250 - val_loss: 0.
    5062 - val_accuracy: 0.8667
591 Epoch 149/300
592 1/1 [=====] - 0s 16ms/step
    - loss: 0.3162 - accuracy: 0.8958 - val_loss: 0.
```

```
592 5036 - val_accuracy: 0.8667
593 Epoch 150/300
594 1/1 [=====] - 0s 14ms/step
    - loss: 0.3173 - accuracy: 0.9083 - val_loss: 0.
    5027 - val_accuracy: 0.8500
595 Epoch 151/300
596 1/1 [=====] - 0s 14ms/step
    - loss: 0.2984 - accuracy: 0.9042 - val_loss: 0.
    5030 - val_accuracy: 0.8500
597 Epoch 152/300
598 1/1 [=====] - 0s 14ms/step
    - loss: 0.2850 - accuracy: 0.9125 - val_loss: 0.
    5040 - val_accuracy: 0.8500
599 Epoch 153/300
600 1/1 [=====] - 0s 14ms/step
    - loss: 0.2989 - accuracy: 0.9167 - val_loss: 0.
    5080 - val_accuracy: 0.8500
601 Epoch 154/300
602 1/1 [=====] - 0s 14ms/step
    - loss: 0.2808 - accuracy: 0.9083 - val_loss: 0.
    5121 - val_accuracy: 0.8500
603 Epoch 155/300
604 1/1 [=====] - 0s 15ms/step
    - loss: 0.2987 - accuracy: 0.9083 - val_loss: 0.
    5148 - val_accuracy: 0.8667
605 Epoch 156/300
606 1/1 [=====] - 0s 14ms/step
    - loss: 0.3037 - accuracy: 0.9250 - val_loss: 0.
    5156 - val_accuracy: 0.8667
607 Epoch 157/300
608 1/1 [=====] - 0s 13ms/step
    - loss: 0.2904 - accuracy: 0.9125 - val_loss: 0.
    5139 - val_accuracy: 0.8500
609 Epoch 158/300
610 1/1 [=====] - 0s 14ms/step
    - loss: 0.2917 - accuracy: 0.9042 - val_loss: 0.
    5099 - val_accuracy: 0.8500
611 Epoch 159/300
612 1/1 [=====] - 0s 15ms/step
    - loss: 0.2786 - accuracy: 0.9125 - val_loss: 0.
    5047 - val_accuracy: 0.8500
613 Epoch 160/300
614 1/1 [=====] - 0s 14ms/step
    - loss: 0.3282 - accuracy: 0.8917 - val_loss: 0.
```

```
614 5011 - val_accuracy: 0.8500
615 Epoch 161/300
616 1/1 [=====] - 0s 14ms/step
    - loss: 0.2753 - accuracy: 0.9167 - val_loss: 0.
    4974 - val_accuracy: 0.8500
617 Epoch 162/300
618 1/1 [=====] - 0s 14ms/step
    - loss: 0.2754 - accuracy: 0.9125 - val_loss: 0.
    4947 - val_accuracy: 0.8667
619 Epoch 163/300
620 1/1 [=====] - 0s 14ms/step
    - loss: 0.2759 - accuracy: 0.9083 - val_loss: 0.
    4939 - val_accuracy: 0.8667
621 Epoch 164/300
622 1/1 [=====] - 0s 14ms/step
    - loss: 0.2725 - accuracy: 0.9042 - val_loss: 0.
    4939 - val_accuracy: 0.8667
623 Epoch 165/300
624 1/1 [=====] - 0s 13ms/step
    - loss: 0.2542 - accuracy: 0.9167 - val_loss: 0.
    4959 - val_accuracy: 0.8667
625 Epoch 166/300
626 1/1 [=====] - 0s 14ms/step
    - loss: 0.2718 - accuracy: 0.9125 - val_loss: 0.
    4990 - val_accuracy: 0.8500
627 Epoch 167/300
628 1/1 [=====] - 0s 14ms/step
    - loss: 0.2831 - accuracy: 0.9167 - val_loss: 0.
    5016 - val_accuracy: 0.8500
629 Epoch 168/300
630 1/1 [=====] - 0s 14ms/step
    - loss: 0.2856 - accuracy: 0.9333 - val_loss: 0.
    5027 - val_accuracy: 0.8500
631 Epoch 169/300
632 1/1 [=====] - 0s 14ms/step
    - loss: 0.2872 - accuracy: 0.9292 - val_loss: 0.
    5022 - val_accuracy: 0.8500
633 Epoch 170/300
634 1/1 [=====] - 0s 15ms/step
    - loss: 0.2629 - accuracy: 0.9250 - val_loss: 0.
    5015 - val_accuracy: 0.8500
635 Epoch 171/300
636 1/1 [=====] - 0s 16ms/step
    - loss: 0.2765 - accuracy: 0.9167 - val_loss: 0.
```

```
636 4995 - val_accuracy: 0.8500
637 Epoch 172/300
638 1/1 [=====] - 0s 15ms/step
    - loss: 0.2504 - accuracy: 0.9208 - val_loss: 0.
    4989 - val_accuracy: 0.8667
639 Epoch 173/300
640 1/1 [=====] - 0s 14ms/step
    - loss: 0.2714 - accuracy: 0.9292 - val_loss: 0.
    4986 - val_accuracy: 0.8667
641 Epoch 174/300
642 1/1 [=====] - 0s 15ms/step
    - loss: 0.2684 - accuracy: 0.9083 - val_loss: 0.
    4978 - val_accuracy: 0.8667
643 Epoch 175/300
644 1/1 [=====] - 0s 15ms/step
    - loss: 0.2372 - accuracy: 0.9292 - val_loss: 0.
    4973 - val_accuracy: 0.8667
645 Epoch 176/300
646 1/1 [=====] - 0s 14ms/step
    - loss: 0.2400 - accuracy: 0.9375 - val_loss: 0.
    4970 - val_accuracy: 0.8667
647 Epoch 177/300
648 1/1 [=====] - 0s 14ms/step
    - loss: 0.2772 - accuracy: 0.9042 - val_loss: 0.
    4976 - val_accuracy: 0.8500
649 Epoch 178/300
650 1/1 [=====] - 0s 14ms/step
    - loss: 0.2757 - accuracy: 0.9208 - val_loss: 0.
    4982 - val_accuracy: 0.8500
651 Epoch 179/300
652 1/1 [=====] - 0s 14ms/step
    - loss: 0.2365 - accuracy: 0.9250 - val_loss: 0.
    4982 - val_accuracy: 0.8500
653 Epoch 180/300
654 1/1 [=====] - 0s 14ms/step
    - loss: 0.2312 - accuracy: 0.9375 - val_loss: 0.
    4961 - val_accuracy: 0.8500
655 Epoch 181/300
656 1/1 [=====] - 0s 14ms/step
    - loss: 0.2778 - accuracy: 0.8875 - val_loss: 0.
    4956 - val_accuracy: 0.8667
657 Epoch 182/300
658 1/1 [=====] - 0s 16ms/step
    - loss: 0.2491 - accuracy: 0.9417 - val_loss: 0.
```

```
658 4946 - val_accuracy: 0.8667
659 Epoch 183/300
660 1/1 [=====] - 0s 14ms/step
    - loss: 0.2220 - accuracy: 0.9458 - val_loss: 0.
    4934 - val_accuracy: 0.8667
661 Epoch 184/300
662 1/1 [=====] - 0s 14ms/step
    - loss: 0.2437 - accuracy: 0.9250 - val_loss: 0.
    4913 - val_accuracy: 0.8667
663 Epoch 185/300
664 1/1 [=====] - 0s 14ms/step
    - loss: 0.2505 - accuracy: 0.9208 - val_loss: 0.
    4906 - val_accuracy: 0.8667
665 Epoch 186/300
666 1/1 [=====] - 0s 14ms/step
    - loss: 0.2314 - accuracy: 0.9250 - val_loss: 0.
    4908 - val_accuracy: 0.8833
667 Epoch 187/300
668 1/1 [=====] - 0s 14ms/step
    - loss: 0.2496 - accuracy: 0.9375 - val_loss: 0.
    4912 - val_accuracy: 0.8833
669 Epoch 188/300
670 1/1 [=====] - 0s 13ms/step
    - loss: 0.2472 - accuracy: 0.9250 - val_loss: 0.
    4918 - val_accuracy: 0.8667
671 Epoch 189/300
672 1/1 [=====] - 0s 14ms/step
    - loss: 0.2370 - accuracy: 0.9375 - val_loss: 0.
    4945 - val_accuracy: 0.8667
673 Epoch 190/300
674 1/1 [=====] - 0s 14ms/step
    - loss: 0.2437 - accuracy: 0.9167 - val_loss: 0.
    4987 - val_accuracy: 0.8833
675 Epoch 191/300
676 1/1 [=====] - 0s 14ms/step
    - loss: 0.2319 - accuracy: 0.9250 - val_loss: 0.
    5009 - val_accuracy: 0.8833
677 Epoch 192/300
678 1/1 [=====] - 0s 22ms/step
    - loss: 0.2381 - accuracy: 0.9083 - val_loss: 0.
    4977 - val_accuracy: 0.8833
679 Epoch 193/300
680 1/1 [=====] - 0s 14ms/step
    - loss: 0.2394 - accuracy: 0.9417 - val_loss: 0.
```

```
680 4950 - val_accuracy: 0.8667
681 Epoch 194/300
682 1/1 [=====] - 0s 14ms/step
    - loss: 0.2386 - accuracy: 0.9167 - val_loss: 0.
    4936 - val_accuracy: 0.8667
683 Epoch 195/300
684 1/1 [=====] - 0s 18ms/step
    - loss: 0.2665 - accuracy: 0.9167 - val_loss: 0.
    4927 - val_accuracy: 0.8667
685 Epoch 196/300
686 1/1 [=====] - 0s 15ms/step
    - loss: 0.2241 - accuracy: 0.9500 - val_loss: 0.
    4903 - val_accuracy: 0.8667
687 Epoch 197/300
688 1/1 [=====] - 0s 15ms/step
    - loss: 0.2339 - accuracy: 0.9333 - val_loss: 0.
    4883 - val_accuracy: 0.8667
689 Epoch 198/300
690 1/1 [=====] - 0s 14ms/step
    - loss: 0.2330 - accuracy: 0.9417 - val_loss: 0.
    4878 - val_accuracy: 0.8667
691 Epoch 199/300
692 1/1 [=====] - 0s 14ms/step
    - loss: 0.2448 - accuracy: 0.9417 - val_loss: 0.
    4874 - val_accuracy: 0.8667
693 Epoch 200/300
694 1/1 [=====] - 0s 14ms/step
    - loss: 0.2552 - accuracy: 0.9125 - val_loss: 0.
    4887 - val_accuracy: 0.8667
695 Epoch 201/300
696 1/1 [=====] - 0s 15ms/step
    - loss: 0.2447 - accuracy: 0.9208 - val_loss: 0.
    4900 - val_accuracy: 0.8667
697 Epoch 202/300
698 1/1 [=====] - 0s 14ms/step
    - loss: 0.2392 - accuracy: 0.9042 - val_loss: 0.
    4918 - val_accuracy: 0.8833
699 Epoch 203/300
700 1/1 [=====] - 0s 14ms/step
    - loss: 0.1993 - accuracy: 0.9333 - val_loss: 0.
    4936 - val_accuracy: 0.9000
701 Epoch 204/300
702 1/1 [=====] - 0s 14ms/step
    - loss: 0.2549 - accuracy: 0.9208 - val_loss: 0.
```

```
702 4949 - val_accuracy: 0.9000
703 Epoch 205/300
704 1/1 [=====] - 0s 15ms/step
    - loss: 0.2213 - accuracy: 0.9250 - val_loss: 0.
    4961 - val_accuracy: 0.8833
705 Epoch 206/300
706 1/1 [=====] - 0s 15ms/step
    - loss: 0.2153 - accuracy: 0.9333 - val_loss: 0.
    4976 - val_accuracy: 0.8833
707 Epoch 207/300
708 1/1 [=====] - 0s 14ms/step
    - loss: 0.2187 - accuracy: 0.9333 - val_loss: 0.
    4990 - val_accuracy: 0.8833
709 Epoch 208/300
710 1/1 [=====] - 0s 14ms/step
    - loss: 0.2275 - accuracy: 0.9208 - val_loss: 0.
    4982 - val_accuracy: 0.9000
711 Epoch 209/300
712 1/1 [=====] - 0s 15ms/step
    - loss: 0.2227 - accuracy: 0.9292 - val_loss: 0.
    4993 - val_accuracy: 0.9000
713 Epoch 210/300
714 1/1 [=====] - 0s 14ms/step
    - loss: 0.2332 - accuracy: 0.9333 - val_loss: 0.
    4991 - val_accuracy: 0.9000
715 Epoch 211/300
716 1/1 [=====] - 0s 14ms/step
    - loss: 0.2320 - accuracy: 0.9333 - val_loss: 0.
    4983 - val_accuracy: 0.9000
717 Epoch 212/300
718 1/1 [=====] - 0s 15ms/step
    - loss: 0.2242 - accuracy: 0.9208 - val_loss: 0.
    4958 - val_accuracy: 0.9000
719 Epoch 213/300
720 1/1 [=====] - 0s 14ms/step
    - loss: 0.2047 - accuracy: 0.9375 - val_loss: 0.
    4946 - val_accuracy: 0.8833
721 Epoch 214/300
722 1/1 [=====] - 0s 15ms/step
    - loss: 0.2000 - accuracy: 0.9542 - val_loss: 0.
    4939 - val_accuracy: 0.8833
723 Epoch 215/300
724 1/1 [=====] - 0s 14ms/step
    - loss: 0.2282 - accuracy: 0.9208 - val_loss: 0.
```

```
724 4933 - val_accuracy: 0.9000
725 Epoch 216/300
726 1/1 [=====] - 0s 16ms/step
    - loss: 0.2319 - accuracy: 0.9333 - val_loss: 0.
    4925 - val_accuracy: 0.9000
727 Epoch 217/300
728 1/1 [=====] - 0s 15ms/step
    - loss: 0.2146 - accuracy: 0.9458 - val_loss: 0.
    4927 - val_accuracy: 0.9000
729 Epoch 218/300
730 1/1 [=====] - 0s 15ms/step
    - loss: 0.2231 - accuracy: 0.9375 - val_loss: 0.
    4946 - val_accuracy: 0.9000
731 Epoch 219/300
732 1/1 [=====] - 0s 14ms/step
    - loss: 0.1996 - accuracy: 0.9250 - val_loss: 0.
    4962 - val_accuracy: 0.9000
733 Epoch 220/300
734 1/1 [=====] - 0s 16ms/step
    - loss: 0.1905 - accuracy: 0.9333 - val_loss: 0.
    4993 - val_accuracy: 0.9000
735 Epoch 221/300
736 1/1 [=====] - 0s 15ms/step
    - loss: 0.2084 - accuracy: 0.9250 - val_loss: 0.
    5022 - val_accuracy: 0.9000
737 Epoch 222/300
738 1/1 [=====] - 0s 15ms/step
    - loss: 0.2015 - accuracy: 0.9292 - val_loss: 0.
    5046 - val_accuracy: 0.9000
739 Epoch 223/300
740 1/1 [=====] - 0s 24ms/step
    - loss: 0.2090 - accuracy: 0.9458 - val_loss: 0.
    5043 - val_accuracy: 0.8833
741 Epoch 224/300
742 1/1 [=====] - 0s 14ms/step
    - loss: 0.2146 - accuracy: 0.9250 - val_loss: 0.
    5008 - val_accuracy: 0.9000
743 Epoch 225/300
744 1/1 [=====] - 0s 16ms/step
    - loss: 0.1722 - accuracy: 0.9542 - val_loss: 0.
    4971 - val_accuracy: 0.9000
745 Epoch 226/300
746 1/1 [=====] - 0s 15ms/step
    - loss: 0.2112 - accuracy: 0.9500 - val_loss: 0.
```

```
746 4945 - val_accuracy: 0.9000
747 Epoch 227/300
748 1/1 [=====] - 0s 14ms/step
    - loss: 0.2049 - accuracy: 0.9375 - val_loss: 0.
    4923 - val_accuracy: 0.9000
749 Epoch 228/300
750 1/1 [=====] - 0s 15ms/step
    - loss: 0.2257 - accuracy: 0.9333 - val_loss: 0.
    4903 - val_accuracy: 0.8833
751 Epoch 229/300
752 1/1 [=====] - 0s 15ms/step
    - loss: 0.2012 - accuracy: 0.9500 - val_loss: 0.
    4896 - val_accuracy: 0.8833
753 Epoch 230/300
754 1/1 [=====] - 0s 15ms/step
    - loss: 0.2359 - accuracy: 0.9125 - val_loss: 0.
    4929 - val_accuracy: 0.8833
755 Epoch 231/300
756 1/1 [=====] - 0s 16ms/step
    - loss: 0.1841 - accuracy: 0.9542 - val_loss: 0.
    4974 - val_accuracy: 0.8833
757 Epoch 232/300
758 1/1 [=====] - 0s 15ms/step
    - loss: 0.2250 - accuracy: 0.9250 - val_loss: 0.
    4993 - val_accuracy: 0.8833
759 Epoch 233/300
760 1/1 [=====] - 0s 16ms/step
    - loss: 0.2009 - accuracy: 0.9458 - val_loss: 0.
    4981 - val_accuracy: 0.9000
761 Epoch 234/300
762 1/1 [=====] - 0s 14ms/step
    - loss: 0.1968 - accuracy: 0.9458 - val_loss: 0.
    4969 - val_accuracy: 0.8833
763 Epoch 235/300
764 1/1 [=====] - 0s 15ms/step
    - loss: 0.2027 - accuracy: 0.9458 - val_loss: 0.
    4960 - val_accuracy: 0.8833
765 Epoch 236/300
766 1/1 [=====] - 0s 14ms/step
    - loss: 0.1862 - accuracy: 0.9417 - val_loss: 0.
    4954 - val_accuracy: 0.8833
767 Epoch 237/300
768 1/1 [=====] - 0s 15ms/step
    - loss: 0.2036 - accuracy: 0.9375 - val_loss: 0.
```

```
768 4944 - val_accuracy: 0.8833
769 Epoch 238/300
770 1/1 [=====] - 0s 14ms/step
    - loss: 0.1828 - accuracy: 0.9500 - val_loss: 0.
    4931 - val_accuracy: 0.8833
771 Epoch 239/300
772 1/1 [=====] - 0s 14ms/step
    - loss: 0.1774 - accuracy: 0.9500 - val_loss: 0.
    4936 - val_accuracy: 0.9000
773 Epoch 240/300
774 1/1 [=====] - 0s 15ms/step
    - loss: 0.2229 - accuracy: 0.9417 - val_loss: 0.
    4949 - val_accuracy: 0.9000
775 Epoch 241/300
776 1/1 [=====] - 0s 15ms/step
    - loss: 0.1810 - accuracy: 0.9500 - val_loss: 0.
    4949 - val_accuracy: 0.9000
777 Epoch 242/300
778 1/1 [=====] - 0s 15ms/step
    - loss: 0.2001 - accuracy: 0.9375 - val_loss: 0.
    4943 - val_accuracy: 0.8833
779 Epoch 243/300
780 1/1 [=====] - 0s 14ms/step
    - loss: 0.1934 - accuracy: 0.9333 - val_loss: 0.
    4941 - val_accuracy: 0.8833
781 Epoch 244/300
782 1/1 [=====] - 0s 16ms/step
    - loss: 0.2216 - accuracy: 0.9458 - val_loss: 0.
    4937 - val_accuracy: 0.8833
783 Epoch 245/300
784 1/1 [=====] - 0s 15ms/step
    - loss: 0.1769 - accuracy: 0.9583 - val_loss: 0.
    4937 - val_accuracy: 0.9000
785 Epoch 246/300
786 1/1 [=====] - 0s 14ms/step
    - loss: 0.1847 - accuracy: 0.9458 - val_loss: 0.
    4954 - val_accuracy: 0.9000
787 Epoch 247/300
788 1/1 [=====] - 0s 16ms/step
    - loss: 0.1723 - accuracy: 0.9542 - val_loss: 0.
    4976 - val_accuracy: 0.8833
789 Epoch 248/300
790 1/1 [=====] - 0s 15ms/step
    - loss: 0.1764 - accuracy: 0.9542 - val_loss: 0.
```

```
790 5002 - val_accuracy: 0.8833
791 Epoch 249/300
792 1/1 [=====] - 0s 15ms/step
    - loss: 0.2155 - accuracy: 0.9250 - val_loss: 0.
    5020 - val_accuracy: 0.8833
793 Epoch 250/300
794 1/1 [=====] - 0s 17ms/step
    - loss: 0.1840 - accuracy: 0.9458 - val_loss: 0.
    5031 - val_accuracy: 0.9000
795 Epoch 251/300
796 1/1 [=====] - 0s 20ms/step
    - loss: 0.1939 - accuracy: 0.9583 - val_loss: 0.
    5029 - val_accuracy: 0.9000
797 Epoch 252/300
798 1/1 [=====] - 0s 15ms/step
    - loss: 0.1846 - accuracy: 0.9625 - val_loss: 0.
    5013 - val_accuracy: 0.9000
799 Epoch 253/300
800 1/1 [=====] - 0s 14ms/step
    - loss: 0.1705 - accuracy: 0.9458 - val_loss: 0.
    4988 - val_accuracy: 0.9000
801 Epoch 254/300
802 1/1 [=====] - 0s 14ms/step
    - loss: 0.1922 - accuracy: 0.9375 - val_loss: 0.
    4945 - val_accuracy: 0.9000
803 Epoch 255/300
804 1/1 [=====] - 0s 15ms/step
    - loss: 0.1794 - accuracy: 0.9458 - val_loss: 0.
    4914 - val_accuracy: 0.9000
805 Epoch 256/300
806 1/1 [=====] - 0s 15ms/step
    - loss: 0.1947 - accuracy: 0.9375 - val_loss: 0.
    4894 - val_accuracy: 0.9000
807 Epoch 257/300
808 1/1 [=====] - 0s 14ms/step
    - loss: 0.1732 - accuracy: 0.9583 - val_loss: 0.
    4893 - val_accuracy: 0.9000
809 Epoch 258/300
810 1/1 [=====] - 0s 14ms/step
    - loss: 0.1685 - accuracy: 0.9417 - val_loss: 0.
    4904 - val_accuracy: 0.9000
811 Epoch 259/300
812 1/1 [=====] - 0s 14ms/step
    - loss: 0.1654 - accuracy: 0.9625 - val_loss: 0.
```

```
812 4921 - val_accuracy: 0.9000
813 Epoch 260/300
814 1/1 [=====] - 0s 14ms/step
    - loss: 0.1757 - accuracy: 0.9625 - val_loss: 0.
    4949 - val_accuracy: 0.9000
815 Epoch 261/300
816 1/1 [=====] - 0s 16ms/step
    - loss: 0.1654 - accuracy: 0.9458 - val_loss: 0.
    4989 - val_accuracy: 0.9000
817 Epoch 262/300
818 1/1 [=====] - 0s 15ms/step
    - loss: 0.1752 - accuracy: 0.9458 - val_loss: 0.
    5031 - val_accuracy: 0.9000
819 Epoch 263/300
820 1/1 [=====] - 0s 14ms/step
    - loss: 0.1610 - accuracy: 0.9417 - val_loss: 0.
    5053 - val_accuracy: 0.9000
821 Epoch 264/300
822 1/1 [=====] - 0s 14ms/step
    - loss: 0.2065 - accuracy: 0.9292 - val_loss: 0.
    5042 - val_accuracy: 0.9000
823 Epoch 265/300
824 1/1 [=====] - 0s 14ms/step
    - loss: 0.1686 - accuracy: 0.9542 - val_loss: 0.
    5019 - val_accuracy: 0.9000
825 Epoch 266/300
826 1/1 [=====] - 0s 14ms/step
    - loss: 0.1622 - accuracy: 0.9500 - val_loss: 0.
    4988 - val_accuracy: 0.9000
827 Epoch 267/300
828 1/1 [=====] - 0s 14ms/step
    - loss: 0.1589 - accuracy: 0.9500 - val_loss: 0.
    4938 - val_accuracy: 0.9000
829 Epoch 268/300
830 1/1 [=====] - 0s 15ms/step
    - loss: 0.1608 - accuracy: 0.9542 - val_loss: 0.
    4896 - val_accuracy: 0.9000
831 Epoch 269/300
832 1/1 [=====] - 0s 14ms/step
    - loss: 0.1822 - accuracy: 0.9417 - val_loss: 0.
    4863 - val_accuracy: 0.9000
833 Epoch 270/300
834 1/1 [=====] - 0s 15ms/step
    - loss: 0.1586 - accuracy: 0.9417 - val_loss: 0.
```

```
834 4848 - val_accuracy: 0.9000
835 Epoch 271/300
836 1/1 [=====] - 0s 16ms/step
    - loss: 0.1506 - accuracy: 0.9542 - val_loss: 0.
    4854 - val_accuracy: 0.9000
837 Epoch 272/300
838 1/1 [=====] - 0s 15ms/step
    - loss: 0.1546 - accuracy: 0.9583 - val_loss: 0.
    4877 - val_accuracy: 0.9000
839 Epoch 273/300
840 1/1 [=====] - 0s 14ms/step
    - loss: 0.1568 - accuracy: 0.9708 - val_loss: 0.
    4916 - val_accuracy: 0.9000
841 Epoch 274/300
842 1/1 [=====] - 0s 15ms/step
    - loss: 0.1529 - accuracy: 0.9583 - val_loss: 0.
    4973 - val_accuracy: 0.9000
843 Epoch 275/300
844 1/1 [=====] - 0s 15ms/step
    - loss: 0.1555 - accuracy: 0.9583 - val_loss: 0.
    5041 - val_accuracy: 0.9000
845 Epoch 276/300
846 1/1 [=====] - 0s 14ms/step
    - loss: 0.1607 - accuracy: 0.9583 - val_loss: 0.
    5105 - val_accuracy: 0.9000
847 Epoch 277/300
848 1/1 [=====] - 0s 14ms/step
    - loss: 0.1781 - accuracy: 0.9458 - val_loss: 0.
    5163 - val_accuracy: 0.9000
849 Epoch 278/300
850 1/1 [=====] - 0s 15ms/step
    - loss: 0.1738 - accuracy: 0.9417 - val_loss: 0.
    5203 - val_accuracy: 0.9000
851 Epoch 279/300
852 1/1 [=====] - 0s 15ms/step
    - loss: 0.1629 - accuracy: 0.9542 - val_loss: 0.
    5197 - val_accuracy: 0.9000
853 Epoch 280/300
854 1/1 [=====] - 0s 15ms/step
    - loss: 0.1445 - accuracy: 0.9708 - val_loss: 0.
    5173 - val_accuracy: 0.9000
855 Epoch 281/300
856 1/1 [=====] - 0s 14ms/step
    - loss: 0.1647 - accuracy: 0.9458 - val_loss: 0.
```

```
856 5131 - val_accuracy: 0.9000
857 Epoch 282/300
858 1/1 [=====] - 0s 15ms/step
    - loss: 0.1539 - accuracy: 0.9625 - val_loss: 0.
    5082 - val_accuracy: 0.9000
859 Epoch 283/300
860 1/1 [=====] - 0s 15ms/step
    - loss: 0.1464 - accuracy: 0.9625 - val_loss: 0.
    5055 - val_accuracy: 0.9000
861 Epoch 284/300
862 1/1 [=====] - 0s 14ms/step
    - loss: 0.1807 - accuracy: 0.9333 - val_loss: 0.
    5020 - val_accuracy: 0.9000
863 Epoch 285/300
864 1/1 [=====] - 0s 14ms/step
    - loss: 0.1337 - accuracy: 0.9750 - val_loss: 0.
    5002 - val_accuracy: 0.9000
865 Epoch 286/300
866 1/1 [=====] - 0s 14ms/step
    - loss: 0.1606 - accuracy: 0.9458 - val_loss: 0.
    4987 - val_accuracy: 0.9000
867 Epoch 287/300
868 1/1 [=====] - 0s 15ms/step
    - loss: 0.1324 - accuracy: 0.9625 - val_loss: 0.
    4987 - val_accuracy: 0.9000
869 Epoch 288/300
870 1/1 [=====] - 0s 15ms/step
    - loss: 0.1751 - accuracy: 0.9417 - val_loss: 0.
    5007 - val_accuracy: 0.9000
871 Epoch 289/300
872 1/1 [=====] - 0s 15ms/step
    - loss: 0.1474 - accuracy: 0.9542 - val_loss: 0.
    5047 - val_accuracy: 0.9000
873 Epoch 290/300
874 1/1 [=====] - 0s 15ms/step
    - loss: 0.1634 - accuracy: 0.9500 - val_loss: 0.
    5077 - val_accuracy: 0.9000
875 Epoch 291/300
876 1/1 [=====] - 0s 15ms/step
    - loss: 0.1448 - accuracy: 0.9583 - val_loss: 0.
    5086 - val_accuracy: 0.9000
877 Epoch 292/300
878 1/1 [=====] - 0s 13ms/step
    - loss: 0.1509 - accuracy: 0.9583 - val_loss: 0.
```

```
878 5098 - val_accuracy: 0.9000
879 Epoch 293/300
880 1/1 [=====] - 0s 14ms/step
    - loss: 0.1503 - accuracy: 0.9542 - val_loss: 0.
    5093 - val_accuracy: 0.8833
881 Epoch 294/300
882 1/1 [=====] - 0s 14ms/step
    - loss: 0.1371 - accuracy: 0.9625 - val_loss: 0.
    5086 - val_accuracy: 0.8833
883 Epoch 295/300
884 1/1 [=====] - 0s 14ms/step
    - loss: 0.1457 - accuracy: 0.9542 - val_loss: 0.
    5077 - val_accuracy: 0.8833
885 Epoch 296/300
886 1/1 [=====] - 0s 15ms/step
    - loss: 0.1593 - accuracy: 0.9500 - val_loss: 0.
    5064 - val_accuracy: 0.9000
887 Epoch 297/300
888 1/1 [=====] - 0s 14ms/step
    - loss: 0.1639 - accuracy: 0.9500 - val_loss: 0.
    5035 - val_accuracy: 0.9000
889 Epoch 298/300
890 1/1 [=====] - 0s 14ms/step
    - loss: 0.1432 - accuracy: 0.9708 - val_loss: 0.
    5009 - val_accuracy: 0.9000
891 Epoch 299/300
892 1/1 [=====] - 0s 15ms/step
    - loss: 0.1554 - accuracy: 0.9375 - val_loss: 0.
    4999 - val_accuracy: 0.9000
893 Epoch 300/300
894 1/1 [=====] - 0s 14ms/step
    - loss: 0.1767 - accuracy: 0.9417 - val_loss: 0.
    4992 - val_accuracy: 0.9000
895
896 Duration of training
897 --- 20.21208429336548 seconds ---
898
899 Predicting...
900 2/2 [=====] - 0s 1ms/step
    - loss: 0.4992 - accuracy: 0.9000
901 score = [0.4992305636405945, 0.8999999761581421]
902
903 Duration of prediction
904 --- 0.04088926315307617 seconds ---
```

```
905
906 --- Comparison of actual vs predicted ---
907 Actual: Apple Predicted: Apple
908 Actual: Apple Predicted: Apple
909 Actual: Apple Predicted: Apple
910 Actual: Apple Predicted: Apple
911 Actual: Apple Predicted: Apple
912 Actual: Apple Predicted: Apple
913 Actual: Apple Predicted: Apple
914 Actual: Apple Predicted: Apple
915 Actual: Apple Predicted: Apple
916 Actual: Apple Predicted: Apple
917 Actual: Apple Predicted: Apple
918 Actual: Apple Predicted: Apple
919 Actual: Apple Predicted: Apple
920 Actual: Apple Predicted: Apple
921 Actual: Apple Predicted: Apple
922 Actual: Apple Predicted: Apple
923 Actual: Apple Predicted: Apple
924 Actual: Apple Predicted: Apple
925 Actual: Apple Predicted: Apple
926 Actual: Banana Predicted: Banana
927 Actual: Banana Predicted: Banana
928 Actual: Banana Predicted: Banana
929 Actual: Banana Predicted: Banana
930 Actual: Banana Predicted: Banana
931 Actual: Banana Predicted: Banana
932 Actual: Banana Predicted: Banana
933 Actual: Banana Predicted: Banana
934 Actual: Banana Predicted: Banana
935 Actual: Banana Predicted: Banana
936 Actual: Banana Predicted: Banana
937 Actual: Banana Predicted: Apple
938 Actual: Banana Predicted: Banana
939 Actual: Banana Predicted: Banana
940 Actual: Banana Predicted: Banana
941 Actual: Banana Predicted: Banana
942 Actual: Banana Predicted: Banana
943 Actual: Banana Predicted: Banana
944 Actual: Mixed Fruits Predicted: Orange
945 Actual: Mixed Fruits Predicted: Mixed Fruits
946 Actual: Mixed Fruits Predicted: Apple
947 Actual: Mixed Fruits Predicted: Banana
948 Actual: Mixed Fruits Predicted: Apple
```

```
949 Actual: Orange Predicted: Orange
950 Actual: Orange Predicted: Orange
951 Actual: Orange Predicted: Orange
952 Actual: Orange Predicted: Orange
953 Actual: Orange Predicted: Orange
954 Actual: Orange Predicted: Orange
955 Actual: Orange Predicted: Orange
956 Actual: Orange Predicted: Orange
957 Actual: Orange Predicted: Orange
958 Actual: Orange Predicted: Orange
959 Actual: Orange Predicted: Orange
960 Actual: Orange Predicted: Orange
961 Actual: Orange Predicted: Apple
962 Actual: Orange Predicted: Orange
963 Actual: Orange Predicted: Orange
964 Actual: Orange Predicted: Orange
965 Actual: Orange Predicted: Orange
966 Actual: Orange Predicted: Orange
967 Epoch 1/100
968 1/1 [=====] - 0s 243ms/step
    - loss: 1.3387 - accuracy: 0.3333 - val_loss: 1.
    2471 - val_accuracy: 0.4167
969 Epoch 2/100
970 1/1 [=====] - 0s 16ms/step
    - loss: 1.2625 - accuracy: 0.3583 - val_loss: 1.
    1830 - val_accuracy: 0.5833
971 Epoch 3/100
972 1/1 [=====] - 0s 15ms/step
    - loss: 1.1759 - accuracy: 0.5250 - val_loss: 1.
    1336 - val_accuracy: 0.5667
973 Epoch 4/100
974 1/1 [=====] - 0s 15ms/step
    - loss: 1.1447 - accuracy: 0.5500 - val_loss: 1.
    0800 - val_accuracy: 0.5667
975 Epoch 5/100
976 1/1 [=====] - 0s 15ms/step
    - loss: 1.0858 - accuracy: 0.5667 - val_loss: 1.
    0201 - val_accuracy: 0.7000
977 Epoch 6/100
978 1/1 [=====] - 0s 13ms/step
    - loss: 0.9846 - accuracy: 0.6333 - val_loss: 0.
    9605 - val_accuracy: 0.7333
979 Epoch 7/100
980 1/1 [=====] - 0s 15ms/step
```

```
980  - loss: 0.9182 - accuracy: 0.6833 - val_loss: 0.  
9069 - val_accuracy: 0.7167  
981 Epoch 8/100  
982 1/1 [=====] - 0s 14ms/step  
    - loss: 0.8646 - accuracy: 0.7250 - val_loss: 0.  
8544 - val_accuracy: 0.7500  
983 Epoch 9/100  
984 1/1 [=====] - 0s 14ms/step  
    - loss: 0.8010 - accuracy: 0.6958 - val_loss: 0.  
8080 - val_accuracy: 0.7833  
985 Epoch 10/100  
986 1/1 [=====] - 0s 14ms/step  
    - loss: 0.7537 - accuracy: 0.7333 - val_loss: 0.  
7745 - val_accuracy: 0.7667  
987 Epoch 11/100  
988 1/1 [=====] - 0s 14ms/step  
    - loss: 0.7018 - accuracy: 0.7375 - val_loss: 0.  
7418 - val_accuracy: 0.7833  
989 Epoch 12/100  
990 1/1 [=====] - 0s 13ms/step  
    - loss: 0.6425 - accuracy: 0.7375 - val_loss: 0.  
6939 - val_accuracy: 0.8000  
991 Epoch 13/100  
992 1/1 [=====] - 0s 15ms/step  
    - loss: 0.6023 - accuracy: 0.7958 - val_loss: 0.  
7116 - val_accuracy: 0.7667  
993 Epoch 14/100  
994 1/1 [=====] - 0s 14ms/step  
    - loss: 0.6035 - accuracy: 0.7792 - val_loss: 0.  
6556 - val_accuracy: 0.8000  
995 Epoch 15/100  
996 1/1 [=====] - 0s 14ms/step  
    - loss: 0.5647 - accuracy: 0.8083 - val_loss: 0.  
6418 - val_accuracy: 0.8000  
997 Epoch 16/100  
998 1/1 [=====] - 0s 15ms/step  
    - loss: 0.5333 - accuracy: 0.8208 - val_loss: 0.  
6431 - val_accuracy: 0.8167  
999 Epoch 17/100  
1000 1/1 [=====] - 0s 14ms/step  
    - loss: 0.4971 - accuracy: 0.8208 - val_loss: 0.  
6565 - val_accuracy: 0.8000  
1001 Epoch 18/100  
1002 1/1 [=====] - 0s 15ms/step
```

```
1002 - loss: 0.4846 - accuracy: 0.8458 - val_loss: 0.  
       6117 - val_accuracy: 0.8167  
1003 Epoch 19/100  
1004 1/1 [=====] - 0s 14ms/step  
       - loss: 0.4546 - accuracy: 0.8250 - val_loss: 0.  
       6134 - val_accuracy: 0.8000  
1005 Epoch 20/100  
1006 1/1 [=====] - 0s 13ms/step  
       - loss: 0.4640 - accuracy: 0.8417 - val_loss: 0.  
       5971 - val_accuracy: 0.8333  
1007 Epoch 21/100  
1008 1/1 [=====] - 0s 15ms/step  
       - loss: 0.4155 - accuracy: 0.8750 - val_loss: 0.  
       6235 - val_accuracy: 0.8500  
1009 Epoch 22/100  
1010 1/1 [=====] - 0s 16ms/step  
       - loss: 0.3906 - accuracy: 0.8792 - val_loss: 0.  
       5965 - val_accuracy: 0.8000  
1011 Epoch 23/100  
1012 1/1 [=====] - 0s 15ms/step  
       - loss: 0.3864 - accuracy: 0.8708 - val_loss: 0.  
       5812 - val_accuracy: 0.8333  
1013 Epoch 24/100  
1014 1/1 [=====] - 0s 14ms/step  
       - loss: 0.3719 - accuracy: 0.8625 - val_loss: 0.  
       5800 - val_accuracy: 0.8167  
1015 Epoch 25/100  
1016 1/1 [=====] - 0s 14ms/step  
       - loss: 0.3608 - accuracy: 0.8625 - val_loss: 0.  
       5919 - val_accuracy: 0.8333  
1017 Epoch 26/100  
1018 1/1 [=====] - 0s 13ms/step  
       - loss: 0.3500 - accuracy: 0.8833 - val_loss: 0.  
       6077 - val_accuracy: 0.8333  
1019 Epoch 27/100  
1020 1/1 [=====] - 0s 13ms/step  
       - loss: 0.3253 - accuracy: 0.8917 - val_loss: 0.  
       5778 - val_accuracy: 0.8000  
1021 Epoch 28/100  
1022 1/1 [=====] - 0s 15ms/step  
       - loss: 0.3224 - accuracy: 0.9000 - val_loss: 0.  
       5779 - val_accuracy: 0.8333  
1023 Epoch 29/100  
1024 1/1 [=====] - 0s 15ms/step
```

```
1024 - loss: 0.3330 - accuracy: 0.9042 - val_loss: 0.  
      5711 - val_accuracy: 0.8333  
1025 Epoch 30/100  
1026 1/1 [=====] - 0s 14ms/step  
      - loss: 0.3046 - accuracy: 0.9000 - val_loss: 0.  
      5788 - val_accuracy: 0.8333  
1027 Epoch 31/100  
1028 1/1 [=====] - 0s 14ms/step  
      - loss: 0.2978 - accuracy: 0.8958 - val_loss: 0.  
      5888 - val_accuracy: 0.8333  
1029 Epoch 32/100  
1030 1/1 [=====] - 0s 14ms/step  
      - loss: 0.2955 - accuracy: 0.8958 - val_loss: 0.  
      5749 - val_accuracy: 0.8333  
1031 Epoch 33/100  
1032 1/1 [=====] - 0s 15ms/step  
      - loss: 0.2624 - accuracy: 0.9167 - val_loss: 0.  
      5728 - val_accuracy: 0.8167  
1033 Epoch 34/100  
1034 1/1 [=====] - 0s 21ms/step  
      - loss: 0.2950 - accuracy: 0.9042 - val_loss: 0.  
      5802 - val_accuracy: 0.8333  
1035 Epoch 35/100  
1036 1/1 [=====] - 0s 14ms/step  
      - loss: 0.2528 - accuracy: 0.9292 - val_loss: 0.  
      5939 - val_accuracy: 0.8333  
1037 Epoch 36/100  
1038 1/1 [=====] - 0s 14ms/step  
      - loss: 0.2414 - accuracy: 0.9250 - val_loss: 0.  
      6025 - val_accuracy: 0.8500  
1039 Epoch 37/100  
1040 1/1 [=====] - 0s 15ms/step  
      - loss: 0.2460 - accuracy: 0.9125 - val_loss: 0.  
      5740 - val_accuracy: 0.8333  
1041 Epoch 38/100  
1042 1/1 [=====] - 0s 16ms/step  
      - loss: 0.2447 - accuracy: 0.9042 - val_loss: 0.  
      5630 - val_accuracy: 0.8333  
1043 Epoch 39/100  
1044 1/1 [=====] - 0s 17ms/step  
      - loss: 0.2055 - accuracy: 0.9375 - val_loss: 0.  
      5652 - val_accuracy: 0.8333  
1045 Epoch 40/100  
1046 1/1 [=====] - 0s 15ms/step
```

```
1046 - loss: 0.2415 - accuracy: 0.9333 - val_loss: 0.  
      5890 - val_accuracy: 0.8500  
1047 Epoch 41/100  
1048 1/1 [=====] - 0s 14ms/step  
      - loss: 0.2303 - accuracy: 0.9583 - val_loss: 0.  
      5930 - val_accuracy: 0.8500  
1049 Epoch 42/100  
1050 1/1 [=====] - 0s 14ms/step  
      - loss: 0.1986 - accuracy: 0.9500 - val_loss: 0.  
      5812 - val_accuracy: 0.8333  
1051 Epoch 43/100  
1052 1/1 [=====] - 0s 14ms/step  
      - loss: 0.2034 - accuracy: 0.9292 - val_loss: 0.  
      5815 - val_accuracy: 0.8333  
1053 Epoch 44/100  
1054 1/1 [=====] - 0s 14ms/step  
      - loss: 0.1883 - accuracy: 0.9417 - val_loss: 0.  
      5867 - val_accuracy: 0.8500  
1055 Epoch 45/100  
1056 1/1 [=====] - 0s 13ms/step  
      - loss: 0.1912 - accuracy: 0.9375 - val_loss: 0.  
      6006 - val_accuracy: 0.8500  
1057 Epoch 46/100  
1058 1/1 [=====] - 0s 16ms/step  
      - loss: 0.1912 - accuracy: 0.9458 - val_loss: 0.  
      6034 - val_accuracy: 0.8667  
1059 Epoch 47/100  
1060 1/1 [=====] - 0s 16ms/step  
      - loss: 0.1581 - accuracy: 0.9500 - val_loss: 0.  
      5860 - val_accuracy: 0.8500  
1061 Epoch 48/100  
1062 1/1 [=====] - 0s 14ms/step  
      - loss: 0.1653 - accuracy: 0.9708 - val_loss: 0.  
      5680 - val_accuracy: 0.8500  
1063 Epoch 49/100  
1064 1/1 [=====] - 0s 15ms/step  
      - loss: 0.1484 - accuracy: 0.9667 - val_loss: 0.  
      5685 - val_accuracy: 0.8667  
1065 Epoch 50/100  
1066 1/1 [=====] - 0s 13ms/step  
      - loss: 0.1285 - accuracy: 0.9625 - val_loss: 0.  
      5869 - val_accuracy: 0.8333  
1067 Epoch 51/100  
1068 1/1 [=====] - 0s 14ms/step
```

```
1068 - loss: 0.1532 - accuracy: 0.9500 - val_loss: 0.  
      5891 - val_accuracy: 0.8667  
1069 Epoch 52/100  
1070 1/1 [=====] - 0s 14ms/step  
      - loss: 0.1406 - accuracy: 0.9625 - val_loss: 0.  
      5921 - val_accuracy: 0.8667  
1071 Epoch 53/100  
1072 1/1 [=====] - 0s 14ms/step  
      - loss: 0.1110 - accuracy: 0.9750 - val_loss: 0.  
      5844 - val_accuracy: 0.8667  
1073 Epoch 54/100  
1074 1/1 [=====] - 0s 14ms/step  
      - loss: 0.1337 - accuracy: 0.9625 - val_loss: 0.  
      5760 - val_accuracy: 0.8667  
1075 Epoch 55/100  
1076 1/1 [=====] - 0s 14ms/step  
      - loss: 0.1285 - accuracy: 0.9583 - val_loss: 0.  
      5878 - val_accuracy: 0.8667  
1077 Epoch 56/100  
1078 1/1 [=====] - 0s 15ms/step  
      - loss: 0.0999 - accuracy: 0.9750 - val_loss: 0.  
      6019 - val_accuracy: 0.8500  
1079 Epoch 57/100  
1080 1/1 [=====] - 0s 14ms/step  
      - loss: 0.1118 - accuracy: 0.9708 - val_loss: 0.  
      6049 - val_accuracy: 0.8500  
1081 Epoch 58/100  
1082 1/1 [=====] - 0s 14ms/step  
      - loss: 0.1095 - accuracy: 0.9708 - val_loss: 0.  
      6042 - val_accuracy: 0.8667  
1083 Epoch 59/100  
1084 1/1 [=====] - 0s 14ms/step  
      - loss: 0.1081 - accuracy: 0.9708 - val_loss: 0.  
      6213 - val_accuracy: 0.8667  
1085 Epoch 60/100  
1086 1/1 [=====] - 0s 13ms/step  
      - loss: 0.0959 - accuracy: 0.9875 - val_loss: 0.  
      6183 - val_accuracy: 0.8667  
1087 Epoch 61/100  
1088 1/1 [=====] - 0s 14ms/step  
      - loss: 0.0931 - accuracy: 0.9833 - val_loss: 0.  
      6228 - val_accuracy: 0.8667  
1089 Epoch 62/100  
1090 1/1 [=====] - 0s 14ms/step
```

```
1090 - loss: 0.0979 - accuracy: 0.9708 - val_loss: 0.  
       6259 - val_accuracy: 0.8667  
1091 Epoch 63/100  
1092 1/1 [=====] - 0s 15ms/step  
       - loss: 0.0870 - accuracy: 0.9833 - val_loss: 0.  
       6260 - val_accuracy: 0.8667  
1093 Epoch 64/100  
1094 1/1 [=====] - 0s 15ms/step  
       - loss: 0.0774 - accuracy: 0.9792 - val_loss: 0.  
       6365 - val_accuracy: 0.8667  
1095 Epoch 65/100  
1096 1/1 [=====] - 0s 15ms/step  
       - loss: 0.0828 - accuracy: 0.9833 - val_loss: 0.  
       6396 - val_accuracy: 0.8500  
1097 Epoch 66/100  
1098 1/1 [=====] - 0s 14ms/step  
       - loss: 0.0803 - accuracy: 0.9833 - val_loss: 0.  
       6082 - val_accuracy: 0.8667  
1099 Epoch 67/100  
1100 1/1 [=====] - 0s 14ms/step  
       - loss: 0.0730 - accuracy: 0.9875 - val_loss: 0.  
       6031 - val_accuracy: 0.8667  
1101 Epoch 68/100  
1102 1/1 [=====] - 0s 14ms/step  
       - loss: 0.0728 - accuracy: 0.9833 - val_loss: 0.  
       6345 - val_accuracy: 0.8667  
1103 Epoch 69/100  
1104 1/1 [=====] - 0s 13ms/step  
       - loss: 0.0625 - accuracy: 0.9917 - val_loss: 0.  
       6758 - val_accuracy: 0.8667  
1105 Epoch 70/100  
1106 1/1 [=====] - 0s 14ms/step  
       - loss: 0.0673 - accuracy: 0.9833 - val_loss: 0.  
       6812 - val_accuracy: 0.8667  
1107 Epoch 71/100  
1108 1/1 [=====] - 0s 14ms/step  
       - loss: 0.0640 - accuracy: 0.9917 - val_loss: 0.  
       6555 - val_accuracy: 0.8667  
1109 Epoch 72/100  
1110 1/1 [=====] - 0s 15ms/step  
       - loss: 0.0631 - accuracy: 0.9958 - val_loss: 0.  
       6483 - val_accuracy: 0.8667  
1111 Epoch 73/100  
1112 1/1 [=====] - 0s 15ms/step
```

```
1112 - loss: 0.0570 - accuracy: 0.9958 - val_loss: 0.  
       6405 - val_accuracy: 0.8667  
1113 Epoch 74/100  
1114 1/1 [=====] - 0s 14ms/step  
       - loss: 0.0607 - accuracy: 0.9833 - val_loss: 0.  
       6396 - val_accuracy: 0.8667  
1115 Epoch 75/100  
1116 1/1 [=====] - 0s 14ms/step  
       - loss: 0.0486 - accuracy: 1.0000 - val_loss: 0.  
       6563 - val_accuracy: 0.8667  
1117 Epoch 76/100  
1118 1/1 [=====] - 0s 17ms/step  
       - loss: 0.0491 - accuracy: 0.9958 - val_loss: 0.  
       6776 - val_accuracy: 0.8667  
1119 Epoch 77/100  
1120 1/1 [=====] - 0s 14ms/step  
       - loss: 0.0469 - accuracy: 0.9958 - val_loss: 0.  
       6767 - val_accuracy: 0.8667  
1121 Epoch 78/100  
1122 1/1 [=====] - 0s 15ms/step  
       - loss: 0.0423 - accuracy: 0.9958 - val_loss: 0.  
       6869 - val_accuracy: 0.8667  
1123 Epoch 79/100  
1124 1/1 [=====] - 0s 13ms/step  
       - loss: 0.0326 - accuracy: 1.0000 - val_loss: 0.  
       7029 - val_accuracy: 0.8667  
1125 Epoch 80/100  
1126 1/1 [=====] - 0s 14ms/step  
       - loss: 0.0535 - accuracy: 0.9917 - val_loss: 0.  
       7243 - val_accuracy: 0.8667  
1127 Epoch 81/100  
1128 1/1 [=====] - 0s 15ms/step  
       - loss: 0.0443 - accuracy: 0.9917 - val_loss: 0.  
       7006 - val_accuracy: 0.8667  
1129 Epoch 82/100  
1130 1/1 [=====] - 0s 21ms/step  
       - loss: 0.0273 - accuracy: 1.0000 - val_loss: 0.  
       6776 - val_accuracy: 0.8833  
1131 Epoch 83/100  
1132 1/1 [=====] - 0s 15ms/step  
       - loss: 0.0359 - accuracy: 0.9958 - val_loss: 0.  
       6813 - val_accuracy: 0.8833  
1133 Epoch 84/100  
1134 1/1 [=====] - 0s 16ms/step
```

```
1134 - loss: 0.0300 - accuracy: 1.0000 - val_loss: 0.  
    7009 - val_accuracy: 0.8833  
1135 Epoch 85/100  
1136 1/1 [=====] - 0s 14ms/step  
    - loss: 0.0353 - accuracy: 0.9958 - val_loss: 0.  
    7415 - val_accuracy: 0.8667  
1137 Epoch 86/100  
1138 1/1 [=====] - 0s 14ms/step  
    - loss: 0.0316 - accuracy: 1.0000 - val_loss: 0.  
    7533 - val_accuracy: 0.8667  
1139 Epoch 87/100  
1140 1/1 [=====] - 0s 15ms/step  
    - loss: 0.0401 - accuracy: 0.9875 - val_loss: 0.  
    7213 - val_accuracy: 0.8833  
1141 Epoch 88/100  
1142 1/1 [=====] - 0s 15ms/step  
    - loss: 0.0235 - accuracy: 1.0000 - val_loss: 0.  
    7205 - val_accuracy: 0.8833  
1143 Epoch 89/100  
1144 1/1 [=====] - 0s 14ms/step  
    - loss: 0.0397 - accuracy: 0.9917 - val_loss: 0.  
    7360 - val_accuracy: 0.8833  
1145 Epoch 90/100  
1146 1/1 [=====] - 0s 15ms/step  
    - loss: 0.0262 - accuracy: 1.0000 - val_loss: 0.  
    7607 - val_accuracy: 0.8667  
1147 Epoch 91/100  
1148 1/1 [=====] - 0s 14ms/step  
    - loss: 0.0276 - accuracy: 1.0000 - val_loss: 0.  
    7738 - val_accuracy: 0.8667  
1149 Epoch 92/100  
1150 1/1 [=====] - 0s 14ms/step  
    - loss: 0.0270 - accuracy: 1.0000 - val_loss: 0.  
    7670 - val_accuracy: 0.8667  
1151 Epoch 93/100  
1152 1/1 [=====] - 0s 14ms/step  
    - loss: 0.0338 - accuracy: 1.0000 - val_loss: 0.  
    7644 - val_accuracy: 0.8833  
1153 Epoch 94/100  
1154 1/1 [=====] - 0s 14ms/step  
    - loss: 0.0204 - accuracy: 1.0000 - val_loss: 0.  
    7771 - val_accuracy: 0.8833  
1155 Epoch 95/100  
1156 1/1 [=====] - 0s 14ms/step
```

```
1156 - loss: 0.0310 - accuracy: 0.9958 - val_loss: 0.  
8046 - val_accuracy: 0.8833  
1157 Epoch 96/100  
1158 1/1 [=====] - 0s 15ms/step  
- loss: 0.0203 - accuracy: 1.0000 - val_loss: 0.  
8273 - val_accuracy: 0.8833  
1159 Epoch 97/100  
1160 1/1 [=====] - 0s 14ms/step  
- loss: 0.0251 - accuracy: 0.9958 - val_loss: 0.  
8270 - val_accuracy: 0.8833  
1161 Epoch 98/100  
1162 1/1 [=====] - 0s 16ms/step  
- loss: 0.0254 - accuracy: 1.0000 - val_loss: 0.  
7905 - val_accuracy: 0.8833  
1163 Epoch 99/100  
1164 1/1 [=====] - 0s 14ms/step  
- loss: 0.0258 - accuracy: 0.9958 - val_loss: 0.  
7381 - val_accuracy: 0.8833  
1165 Epoch 100/100  
1166 1/1 [=====] - 0s 15ms/step  
- loss: 0.0241 - accuracy: 1.0000 - val_loss: 0.  
7232 - val_accuracy: 0.8833  
1167  
1168 Duration of training  
1169 --- 9.878859758377075 seconds ---  
1170  
1171 Predicting...  
1172 2/2 [=====] - 0s 1ms/step  
- loss: 0.7232 - accuracy: 0.8833  
1173 score = [0.7232022881507874, 0.8833333253860474]  
1174  
1175 Duration of prediction  
1176 --- 0.040381669998168945 seconds ---  
1177  
1178 --- Comparison of actual vs predicted ---  
1179 Actual: Apple Predicted: Apple  
1180 Actual: Apple Predicted: Apple  
1181 Actual: Apple Predicted: Apple  
1182 Actual: Apple Predicted: Apple  
1183 Actual: Apple Predicted: Apple  
1184 Actual: Apple Predicted: Apple  
1185 Actual: Apple Predicted: Apple  
1186 Actual: Apple Predicted: Apple  
1187 Actual: Apple Predicted: Apple
```

1188	Actual:	Apple	Predicted:	Banana
1189	Actual:	Apple	Predicted:	Apple
1190	Actual:	Apple	Predicted:	Apple
1191	Actual:	Apple	Predicted:	Apple
1192	Actual:	Apple	Predicted:	Apple
1193	Actual:	Apple	Predicted:	Apple
1194	Actual:	Apple	Predicted:	Apple
1195	Actual:	Apple	Predicted:	Apple
1196	Actual:	Apple	Predicted:	Apple
1197	Actual:	Apple	Predicted:	Apple
1198	Actual:	Banana	Predicted:	Banana
1199	Actual:	Banana	Predicted:	Banana
1200	Actual:	Banana	Predicted:	Banana
1201	Actual:	Banana	Predicted:	Banana
1202	Actual:	Banana	Predicted:	Banana
1203	Actual:	Banana	Predicted:	Banana
1204	Actual:	Banana	Predicted:	Banana
1205	Actual:	Banana	Predicted:	Banana
1206	Actual:	Banana	Predicted:	Banana
1207	Actual:	Banana	Predicted:	Orange
1208	Actual:	Banana	Predicted:	Banana
1209	Actual:	Banana	Predicted:	Apple
1210	Actual:	Banana	Predicted:	Banana
1211	Actual:	Banana	Predicted:	Banana
1212	Actual:	Banana	Predicted:	Banana
1213	Actual:	Banana	Predicted:	Banana
1214	Actual:	Banana	Predicted:	Banana
1215	Actual:	Banana	Predicted:	Banana
1216	Actual:	Mixed Fruits	Predicted:	Orange
1217	Actual:	Mixed Fruits	Predicted:	Banana
1218	Actual:	Mixed Fruits	Predicted:	Apple
1219	Actual:	Mixed Fruits	Predicted:	Mixed Fruits
1220	Actual:	Mixed Fruits	Predicted:	Apple
1221	Actual:	Orange	Predicted:	Orange
1222	Actual:	Orange	Predicted:	Orange
1223	Actual:	Orange	Predicted:	Orange
1224	Actual:	Orange	Predicted:	Orange
1225	Actual:	Orange	Predicted:	Orange
1226	Actual:	Orange	Predicted:	Orange
1227	Actual:	Orange	Predicted:	Orange
1228	Actual:	Orange	Predicted:	Orange
1229	Actual:	Orange	Predicted:	Orange
1230	Actual:	Orange	Predicted:	Orange
1231	Actual:	Orange	Predicted:	Orange

```
1232 Actual: Orange Predicted: Orange
1233 Actual: Orange Predicted: Orange
1234 Actual: Orange Predicted: Orange
1235 Actual: Orange Predicted: Orange
1236 Actual: Orange Predicted: Orange
1237 Actual: Orange Predicted: Orange
1238 Actual: Orange Predicted: Orange
1239 Epoch 1/100
1240 1/1 [=====] - 0s 140ms/
    step - loss: 1.3932 - accuracy: 0.1958 - val_loss:
    1.3165 - val_accuracy: 0.3500
1241 Epoch 2/100
1242 1/1 [=====] - 0s 19ms/step
    - loss: 1.3178 - accuracy: 0.3417 - val_loss: 1.
    2739 - val_accuracy: 0.5000
1243 Epoch 3/100
1244 1/1 [=====] - 0s 19ms/step
    - loss: 1.3271 - accuracy: 0.3250 - val_loss: 1.
    2695 - val_accuracy: 0.4333
1245 Epoch 4/100
1246 1/1 [=====] - 0s 18ms/step
    - loss: 1.3511 - accuracy: 0.2958 - val_loss: 1.
    2587 - val_accuracy: 0.5000
1247 Epoch 5/100
1248 1/1 [=====] - 0s 19ms/step
    - loss: 1.2691 - accuracy: 0.3833 - val_loss: 1.
    2443 - val_accuracy: 0.5833
1249 Epoch 6/100
1250 1/1 [=====] - 0s 19ms/step
    - loss: 1.2955 - accuracy: 0.4125 - val_loss: 1.
    2233 - val_accuracy: 0.5500
1251 Epoch 7/100
1252 1/1 [=====] - 0s 18ms/step
    - loss: 1.2416 - accuracy: 0.4917 - val_loss: 1.
    1895 - val_accuracy: 0.6500
1253 Epoch 8/100
1254 1/1 [=====] - 0s 18ms/step
    - loss: 1.1969 - accuracy: 0.5042 - val_loss: 1.
    1421 - val_accuracy: 0.7333
1255 Epoch 9/100
1256 1/1 [=====] - 0s 17ms/step
    - loss: 1.1899 - accuracy: 0.4875 - val_loss: 1.
    0782 - val_accuracy: 0.7667
1257 Epoch 10/100
```

```
1258 1/1 [=====] - 0s 18ms/step
      - loss: 1.1590 - accuracy: 0.5458 - val_loss: 1.
      0194 - val_accuracy: 0.7333
1259 Epoch 11/100
1260 1/1 [=====] - 0s 18ms/step
      - loss: 1.0798 - accuracy: 0.5875 - val_loss: 0.
      9599 - val_accuracy: 0.7833
1261 Epoch 12/100
1262 1/1 [=====] - 0s 19ms/step
      - loss: 1.0675 - accuracy: 0.6125 - val_loss: 0.
      9209 - val_accuracy: 0.8000
1263 Epoch 13/100
1264 1/1 [=====] - 0s 18ms/step
      - loss: 1.0057 - accuracy: 0.6792 - val_loss: 0.
      8412 - val_accuracy: 0.7667
1265 Epoch 14/100
1266 1/1 [=====] - 0s 19ms/step
      - loss: 0.9468 - accuracy: 0.6625 - val_loss: 0.
      7777 - val_accuracy: 0.7833
1267 Epoch 15/100
1268 1/1 [=====] - 0s 20ms/step
      - loss: 0.9513 - accuracy: 0.7042 - val_loss: 0.
      8510 - val_accuracy: 0.7333
1269 Epoch 16/100
1270 1/1 [=====] - 0s 19ms/step
      - loss: 0.9286 - accuracy: 0.6458 - val_loss: 0.
      6820 - val_accuracy: 0.8000
1271 Epoch 17/100
1272 1/1 [=====] - 0s 18ms/step
      - loss: 0.8416 - accuracy: 0.7167 - val_loss: 0.
      6776 - val_accuracy: 0.7667
1273 Epoch 18/100
1274 1/1 [=====] - 0s 19ms/step
      - loss: 0.9157 - accuracy: 0.7000 - val_loss: 0.
      6249 - val_accuracy: 0.8333
1275 Epoch 19/100
1276 1/1 [=====] - 0s 20ms/step
      - loss: 0.7236 - accuracy: 0.7750 - val_loss: 0.
      7274 - val_accuracy: 0.7833
1277 Epoch 20/100
1278 1/1 [=====] - 0s 18ms/step
      - loss: 0.8213 - accuracy: 0.6958 - val_loss: 0.
      6199 - val_accuracy: 0.8500
1279 Epoch 21/100
```

```
1280 1/1 [=====] - 0s 18ms/step
      - loss: 0.6664 - accuracy: 0.7667 - val_loss: 0.
      5804 - val_accuracy: 0.8667
1281 Epoch 22/100
1282 1/1 [=====] - 0s 20ms/step
      - loss: 0.7007 - accuracy: 0.7542 - val_loss: 0.
      5394 - val_accuracy: 0.8500
1283 Epoch 23/100
1284 1/1 [=====] - 0s 20ms/step
      - loss: 0.6601 - accuracy: 0.7708 - val_loss: 0.
      5698 - val_accuracy: 0.8167
1285 Epoch 24/100
1286 1/1 [=====] - 0s 23ms/step
      - loss: 0.6612 - accuracy: 0.7750 - val_loss: 0.
      5754 - val_accuracy: 0.8167
1287 Epoch 25/100
1288 1/1 [=====] - 0s 21ms/step
      - loss: 0.6202 - accuracy: 0.7917 - val_loss: 0.
      5715 - val_accuracy: 0.8667
1289 Epoch 26/100
1290 1/1 [=====] - 0s 19ms/step
      - loss: 0.5912 - accuracy: 0.7917 - val_loss: 0.
      5993 - val_accuracy: 0.8333
1291 Epoch 27/100
1292 1/1 [=====] - 0s 18ms/step
      - loss: 0.6265 - accuracy: 0.7833 - val_loss: 0.
      5479 - val_accuracy: 0.8667
1293 Epoch 28/100
1294 1/1 [=====] - 0s 18ms/step
      - loss: 0.5812 - accuracy: 0.8042 - val_loss: 0.
      5227 - val_accuracy: 0.8833
1295 Epoch 29/100
1296 1/1 [=====] - 0s 20ms/step
      - loss: 0.5382 - accuracy: 0.8167 - val_loss: 0.
      5620 - val_accuracy: 0.8333
1297 Epoch 30/100
1298 1/1 [=====] - 0s 18ms/step
      - loss: 0.5675 - accuracy: 0.7792 - val_loss: 0.
      5368 - val_accuracy: 0.8333
1299 Epoch 31/100
1300 1/1 [=====] - 0s 19ms/step
      - loss: 0.4999 - accuracy: 0.8250 - val_loss: 0.
      5143 - val_accuracy: 0.8833
1301 Epoch 32/100
```

```
1302 1/1 [=====] - 0s 18ms/step
      - loss: 0.5239 - accuracy: 0.7958 - val_loss: 0.
      5505 - val_accuracy: 0.8667
1303 Epoch 33/100
1304 1/1 [=====] - 0s 18ms/step
      - loss: 0.4703 - accuracy: 0.8125 - val_loss: 0.
      5763 - val_accuracy: 0.8667
1305 Epoch 34/100
1306 1/1 [=====] - 0s 18ms/step
      - loss: 0.5044 - accuracy: 0.8125 - val_loss: 0.
      5600 - val_accuracy: 0.8500
1307 Epoch 35/100
1308 1/1 [=====] - 0s 19ms/step
      - loss: 0.4607 - accuracy: 0.8417 - val_loss: 0.
      5686 - val_accuracy: 0.8667
1309 Epoch 36/100
1310 1/1 [=====] - 0s 19ms/step
      - loss: 0.5438 - accuracy: 0.8333 - val_loss: 0.
      5187 - val_accuracy: 0.8833
1311 Epoch 37/100
1312 1/1 [=====] - 0s 19ms/step
      - loss: 0.4295 - accuracy: 0.8250 - val_loss: 0.
      4992 - val_accuracy: 0.8833
1313 Epoch 38/100
1314 1/1 [=====] - 0s 18ms/step
      - loss: 0.4433 - accuracy: 0.8292 - val_loss: 0.
      5105 - val_accuracy: 0.8667
1315 Epoch 39/100
1316 1/1 [=====] - 0s 18ms/step
      - loss: 0.4300 - accuracy: 0.8625 - val_loss: 0.
      5579 - val_accuracy: 0.8500
1317 Epoch 40/100
1318 1/1 [=====] - 0s 19ms/step
      - loss: 0.3867 - accuracy: 0.8917 - val_loss: 0.
      6087 - val_accuracy: 0.8500
1319 Epoch 41/100
1320 1/1 [=====] - 0s 18ms/step
      - loss: 0.3847 - accuracy: 0.8625 - val_loss: 0.
      6016 - val_accuracy: 0.8667
1321 Epoch 42/100
1322 1/1 [=====] - 0s 18ms/step
      - loss: 0.3737 - accuracy: 0.8833 - val_loss: 0.
      5432 - val_accuracy: 0.8667
1323 Epoch 43/100
```

```
1324 1/1 [=====] - 0s 18ms/step
      - loss: 0.4090 - accuracy: 0.8708 - val_loss: 0.
      5138 - val_accuracy: 0.8833
1325 Epoch 44/100
1326 1/1 [=====] - 0s 19ms/step
      - loss: 0.3798 - accuracy: 0.8708 - val_loss: 0.
      5232 - val_accuracy: 0.8833
1327 Epoch 45/100
1328 1/1 [=====] - 0s 17ms/step
      - loss: 0.3376 - accuracy: 0.8958 - val_loss: 0.
      5623 - val_accuracy: 0.8667
1329 Epoch 46/100
1330 1/1 [=====] - 0s 17ms/step
      - loss: 0.3691 - accuracy: 0.8542 - val_loss: 0.
      5734 - val_accuracy: 0.8500
1331 Epoch 47/100
1332 1/1 [=====] - 0s 19ms/step
      - loss: 0.3141 - accuracy: 0.8875 - val_loss: 0.
      5071 - val_accuracy: 0.8667
1333 Epoch 48/100
1334 1/1 [=====] - 0s 19ms/step
      - loss: 0.3479 - accuracy: 0.8833 - val_loss: 0.
      4785 - val_accuracy: 0.8833
1335 Epoch 49/100
1336 1/1 [=====] - 0s 19ms/step
      - loss: 0.3519 - accuracy: 0.8708 - val_loss: 0.
      4835 - val_accuracy: 0.8833
1337 Epoch 50/100
1338 1/1 [=====] - 0s 19ms/step
      - loss: 0.3366 - accuracy: 0.8667 - val_loss: 0.
      5201 - val_accuracy: 0.8667
1339 Epoch 51/100
1340 1/1 [=====] - 0s 21ms/step
      - loss: 0.2686 - accuracy: 0.8958 - val_loss: 0.
      6042 - val_accuracy: 0.8667
1341 Epoch 52/100
1342 1/1 [=====] - 0s 19ms/step
      - loss: 0.2993 - accuracy: 0.8958 - val_loss: 0.
      5459 - val_accuracy: 0.8667
1343 Epoch 53/100
1344 1/1 [=====] - 0s 20ms/step
      - loss: 0.3300 - accuracy: 0.9000 - val_loss: 0.
      5223 - val_accuracy: 0.8833
1345 Epoch 54/100
```

```
1346 1/1 [=====] - 0s 19ms/step
      - loss: 0.2861 - accuracy: 0.9083 - val_loss: 0.
      4927 - val_accuracy: 0.8667
1347 Epoch 55/100
1348 1/1 [=====] - 0s 19ms/step
      - loss: 0.2578 - accuracy: 0.9250 - val_loss: 0.
      5112 - val_accuracy: 0.8833
1349 Epoch 56/100
1350 1/1 [=====] - 0s 19ms/step
      - loss: 0.2937 - accuracy: 0.9000 - val_loss: 0.
      5459 - val_accuracy: 0.9000
1351 Epoch 57/100
1352 1/1 [=====] - 0s 19ms/step
      - loss: 0.2437 - accuracy: 0.9250 - val_loss: 0.
      5624 - val_accuracy: 0.8500
1353 Epoch 58/100
1354 1/1 [=====] - 0s 18ms/step
      - loss: 0.2472 - accuracy: 0.9167 - val_loss: 0.
      6155 - val_accuracy: 0.8667
1355 Epoch 59/100
1356 1/1 [=====] - 0s 18ms/step
      - loss: 0.3062 - accuracy: 0.8833 - val_loss: 0.
      5745 - val_accuracy: 0.8667
1357 Epoch 60/100
1358 1/1 [=====] - 0s 19ms/step
      - loss: 0.2374 - accuracy: 0.9125 - val_loss: 0.
      5665 - val_accuracy: 0.8833
1359 Epoch 61/100
1360 1/1 [=====] - 0s 22ms/step
      - loss: 0.2611 - accuracy: 0.9042 - val_loss: 0.
      5587 - val_accuracy: 0.8833
1361 Epoch 62/100
1362 1/1 [=====] - 0s 18ms/step
      - loss: 0.2478 - accuracy: 0.9042 - val_loss: 0.
      5258 - val_accuracy: 0.8667
1363 Epoch 63/100
1364 1/1 [=====] - 0s 18ms/step
      - loss: 0.2066 - accuracy: 0.9292 - val_loss: 0.
      5475 - val_accuracy: 0.8833
1365 Epoch 64/100
1366 1/1 [=====] - 0s 18ms/step
      - loss: 0.2363 - accuracy: 0.9208 - val_loss: 0.
      5675 - val_accuracy: 0.8667
1367 Epoch 65/100
```

```
1368 1/1 [=====] - 0s 20ms/step
      - loss: 0.1763 - accuracy: 0.9458 - val_loss: 0.
      6380 - val_accuracy: 0.8833
1369 Epoch 66/100
1370 1/1 [=====] - 0s 18ms/step
      - loss: 0.2062 - accuracy: 0.9333 - val_loss: 0.
      6276 - val_accuracy: 0.9000
1371 Epoch 67/100
1372 1/1 [=====] - 0s 18ms/step
      - loss: 0.2436 - accuracy: 0.9208 - val_loss: 0.
      5727 - val_accuracy: 0.8667
1373 Epoch 68/100
1374 1/1 [=====] - 0s 19ms/step
      - loss: 0.1589 - accuracy: 0.9458 - val_loss: 0.
      5820 - val_accuracy: 0.8833
1375 Epoch 69/100
1376 1/1 [=====] - 0s 18ms/step
      - loss: 0.2017 - accuracy: 0.9250 - val_loss: 0.
      5781 - val_accuracy: 0.8833
1377 Epoch 70/100
1378 1/1 [=====] - 0s 19ms/step
      - loss: 0.1762 - accuracy: 0.9417 - val_loss: 0.
      6124 - val_accuracy: 0.8833
1379 Epoch 71/100
1380 1/1 [=====] - 0s 18ms/step
      - loss: 0.1254 - accuracy: 0.9708 - val_loss: 0.
      6655 - val_accuracy: 0.9000
1381 Epoch 72/100
1382 1/1 [=====] - 0s 19ms/step
      - loss: 0.1366 - accuracy: 0.9625 - val_loss: 0.
      6415 - val_accuracy: 0.8833
1383 Epoch 73/100
1384 1/1 [=====] - 0s 19ms/step
      - loss: 0.1865 - accuracy: 0.9250 - val_loss: 0.
      5942 - val_accuracy: 0.8833
1385 Epoch 74/100
1386 1/1 [=====] - 0s 19ms/step
      - loss: 0.1473 - accuracy: 0.9625 - val_loss: 0.
      6025 - val_accuracy: 0.8833
1387 Epoch 75/100
1388 1/1 [=====] - 0s 18ms/step
      - loss: 0.1583 - accuracy: 0.9583 - val_loss: 0.
      5936 - val_accuracy: 0.8667
1389 Epoch 76/100
```

```
1390 1/1 [=====] - 0s 17ms/step
      - loss: 0.1439 - accuracy: 0.9583 - val_loss: 0.
      6657 - val_accuracy: 0.8833
1391 Epoch 77/100
1392 1/1 [=====] - 0s 19ms/step
      - loss: 0.1430 - accuracy: 0.9583 - val_loss: 0.
      6961 - val_accuracy: 0.8833
1393 Epoch 78/100
1394 1/1 [=====] - 0s 19ms/step
      - loss: 0.1507 - accuracy: 0.9458 - val_loss: 0.
      6898 - val_accuracy: 0.8833
1395 Epoch 79/100
1396 1/1 [=====] - 0s 19ms/step
      - loss: 0.1086 - accuracy: 0.9625 - val_loss: 0.
      6726 - val_accuracy: 0.8833
1397 Epoch 80/100
1398 1/1 [=====] - 0s 18ms/step
      - loss: 0.1397 - accuracy: 0.9542 - val_loss: 0.
      6719 - val_accuracy: 0.8833
1399 Epoch 81/100
1400 1/1 [=====] - 0s 19ms/step
      - loss: 0.1166 - accuracy: 0.9708 - val_loss: 0.
      6890 - val_accuracy: 0.8833
1401 Epoch 82/100
1402 1/1 [=====] - 0s 18ms/step
      - loss: 0.0967 - accuracy: 0.9833 - val_loss: 0.
      7488 - val_accuracy: 0.9000
1403 Epoch 83/100
1404 1/1 [=====] - 0s 18ms/step
      - loss: 0.1140 - accuracy: 0.9542 - val_loss: 0.
      7589 - val_accuracy: 0.9000
1405 Epoch 84/100
1406 1/1 [=====] - 0s 19ms/step
      - loss: 0.1124 - accuracy: 0.9625 - val_loss: 0.
      7495 - val_accuracy: 0.8833
1407 Epoch 85/100
1408 1/1 [=====] - 0s 20ms/step
      - loss: 0.1072 - accuracy: 0.9583 - val_loss: 0.
      7266 - val_accuracy: 0.8833
1409 Epoch 86/100
1410 1/1 [=====] - 0s 21ms/step
      - loss: 0.1163 - accuracy: 0.9500 - val_loss: 0.
      6913 - val_accuracy: 0.8833
1411 Epoch 87/100
```

```
1412 1/1 [=====] - 0s 20ms/step
      - loss: 0.1001 - accuracy: 0.9750 - val_loss: 0.
      6797 - val_accuracy: 0.8833
1413 Epoch 88/100
1414 1/1 [=====] - 0s 21ms/step
      - loss: 0.0890 - accuracy: 0.9667 - val_loss: 0.
      7075 - val_accuracy: 0.9000
1415 Epoch 89/100
1416 1/1 [=====] - 0s 19ms/step
      - loss: 0.1035 - accuracy: 0.9625 - val_loss: 0.
      7499 - val_accuracy: 0.9000
1417 Epoch 90/100
1418 1/1 [=====] - 0s 20ms/step
      - loss: 0.1052 - accuracy: 0.9708 - val_loss: 0.
      7888 - val_accuracy: 0.9000
1419 Epoch 91/100
1420 1/1 [=====] - 0s 19ms/step
      - loss: 0.0635 - accuracy: 0.9917 - val_loss: 0.
      8013 - val_accuracy: 0.9000
1421 Epoch 92/100
1422 1/1 [=====] - 0s 20ms/step
      - loss: 0.0892 - accuracy: 0.9708 - val_loss: 0.
      8357 - val_accuracy: 0.8833
1423 Epoch 93/100
1424 1/1 [=====] - 0s 20ms/step
      - loss: 0.0768 - accuracy: 0.9625 - val_loss: 0.
      8908 - val_accuracy: 0.8667
1425 Epoch 94/100
1426 1/1 [=====] - 0s 20ms/step
      - loss: 0.0726 - accuracy: 0.9750 - val_loss: 0.
      9290 - val_accuracy: 0.8833
1427 Epoch 95/100
1428 1/1 [=====] - 0s 20ms/step
      - loss: 0.0666 - accuracy: 0.9792 - val_loss: 0.
      9517 - val_accuracy: 0.9000
1429 Epoch 96/100
1430 1/1 [=====] - 0s 20ms/step
      - loss: 0.0687 - accuracy: 0.9875 - val_loss: 0.
      9268 - val_accuracy: 0.9000
1431 Epoch 97/100
1432 1/1 [=====] - 0s 20ms/step
      - loss: 0.0917 - accuracy: 0.9750 - val_loss: 0.
      8690 - val_accuracy: 0.9000
1433 Epoch 98/100
```

```
1434 1/1 [=====] - 0s 20ms/step
      - loss: 0.0444 - accuracy: 0.9958 - val_loss: 0.
      8273 - val_accuracy: 0.9000
1435 Epoch 99/100
1436 1/1 [=====] - 0s 19ms/step
      - loss: 0.0678 - accuracy: 0.9833 - val_loss: 0.
      8303 - val_accuracy: 0.8833
1437 Epoch 100/100
1438 1/1 [=====] - 0s 20ms/step
      - loss: 0.0623 - accuracy: 0.9667 - val_loss: 0.
      8913 - val_accuracy: 0.9000
1439
1440 Duration of training
1441 --- 20.893895626068115 seconds ---
1442
1443 Predicting...
1444 2/2 [=====] - 0s 2ms/step
      - loss: 0.8913 - accuracy: 0.9000
1445 score = [0.8913376927375793, 0.8999999761581421]
1446
1447 Duration of prediction
1448 --- 0.04591941833496094 seconds ---
1449
1450 --- Comparison of actual vs predicted ---
1451 Actual: Apple Predicted: Apple
1452 Actual: Apple Predicted: Apple
1453 Actual: Apple Predicted: Apple
1454 Actual: Apple Predicted: Apple
1455 Actual: Apple Predicted: Apple
1456 Actual: Apple Predicted: Apple
1457 Actual: Apple Predicted: Apple
1458 Actual: Apple Predicted: Apple
1459 Actual: Apple Predicted: Apple
1460 Actual: Apple Predicted: Apple
1461 Actual: Apple Predicted: Apple
1462 Actual: Apple Predicted: Apple
1463 Actual: Apple Predicted: Apple
1464 Actual: Apple Predicted: Apple
1465 Actual: Apple Predicted: Apple
1466 Actual: Apple Predicted: Apple
1467 Actual: Apple Predicted: Apple
1468 Actual: Apple Predicted: Apple
1469 Actual: Apple Predicted: Apple
1470 Actual: Banana Predicted: Banana
```

1471	Actual:	Banana	Predicted:	Banana
1472	Actual:	Banana	Predicted:	Banana
1473	Actual:	Banana	Predicted:	Banana
1474	Actual:	Banana	Predicted:	Banana
1475	Actual:	Banana	Predicted:	Banana
1476	Actual:	Banana	Predicted:	Banana
1477	Actual:	Banana	Predicted:	Banana
1478	Actual:	Banana	Predicted:	Banana
1479	Actual:	Banana	Predicted:	Mixed Fruits
1480	Actual:	Banana	Predicted:	Banana
1481	Actual:	Banana	Predicted:	Apple
1482	Actual:	Banana	Predicted:	Banana
1483	Actual:	Banana	Predicted:	Banana
1484	Actual:	Banana	Predicted:	Banana
1485	Actual:	Banana	Predicted:	Banana
1486	Actual:	Banana	Predicted:	Banana
1487	Actual:	Banana	Predicted:	Banana
1488	Actual:	Mixed Fruits	Predicted:	Orange
1489	Actual:	Mixed Fruits	Predicted:	Banana
1490	Actual:	Mixed Fruits	Predicted:	Apple
1491	Actual:	Mixed Fruits	Predicted:	Mixed Fruits
1492	Actual:	Mixed Fruits	Predicted:	Apple
1493	Actual:	Orange	Predicted:	Orange
1494	Actual:	Orange	Predicted:	Orange
1495	Actual:	Orange	Predicted:	Orange
1496	Actual:	Orange	Predicted:	Orange
1497	Actual:	Orange	Predicted:	Orange
1498	Actual:	Orange	Predicted:	Orange
1499	Actual:	Orange	Predicted:	Orange
1500	Actual:	Orange	Predicted:	Orange
1501	Actual:	Orange	Predicted:	Orange
1502	Actual:	Orange	Predicted:	Orange
1503	Actual:	Orange	Predicted:	Orange
1504	Actual:	Orange	Predicted:	Orange
1505	Actual:	Orange	Predicted:	Orange
1506	Actual:	Orange	Predicted:	Orange
1507	Actual:	Orange	Predicted:	Orange
1508	Actual:	Orange	Predicted:	Orange
1509	Actual:	Orange	Predicted:	Orange
1510	Actual:	Orange	Predicted:	Orange
1511	Epoch	1/100		
1512	2020-11-16 12:59:02.536278:	W tensorflow/core/framework/cpu_allocator_impl.cc:81]	Allocation of 487710720 exceeds 10% of free system memory.	

```
1513 2020-11-16 12:59:03.011394: W tensorflow/core/
    framework/cpu_allocator_impl.cc:81] Allocation of
    487710720 exceeds 10% of free system memory.
1514 1/1 [=====] - 7s 7s/step
    - loss: 1.5419 - accuracy: 0.2208 - val_loss: 3.
    1573 - val_accuracy: 0.5000
1515 Epoch 2/100
1516 2020-11-16 12:59:11.594754: W tensorflow/core/
    framework/cpu_allocator_impl.cc:81] Allocation of
    487710720 exceeds 10% of free system memory.
1517 2020-11-16 12:59:12.009817: W tensorflow/core/
    framework/cpu_allocator_impl.cc:81] Allocation of
    487710720 exceeds 10% of free system memory.
1518 1/1 [=====] - 0s 74ms/step
    - loss: 4.0240 - accuracy: 0.4125 - val_loss: 8.
    0474 - val_accuracy: 0.3000
1519 Epoch 3/100
1520 2020-11-16 12:59:12.700874: W tensorflow/core/
    framework/cpu_allocator_impl.cc:81] Allocation of
    487710720 exceeds 10% of free system memory.
1521 1/1 [=====] - 0s 74ms/step
    - loss: 7.7910 - accuracy: 0.3250 - val_loss: 6.
    4431 - val_accuracy: 0.3167
1522 Epoch 4/100
1523 1/1 [=====] - 0s 75ms/step
    - loss: 5.7481 - accuracy: 0.3542 - val_loss: 4.
    6806 - val_accuracy: 0.4167
1524 Epoch 5/100
1525 1/1 [=====] - 0s 75ms/step
    - loss: 4.4735 - accuracy: 0.4333 - val_loss: 3.
    7854 - val_accuracy: 0.3667
1526 Epoch 6/100
1527 1/1 [=====] - 0s 75ms/step
    - loss: 3.7650 - accuracy: 0.3875 - val_loss: 1.
    3332 - val_accuracy: 0.6000
1528 Epoch 7/100
1529 1/1 [=====] - 0s 75ms/step
    - loss: 1.4697 - accuracy: 0.5458 - val_loss: 1.
    4096 - val_accuracy: 0.5500
1530 Epoch 8/100
1531 1/1 [=====] - 0s 74ms/step
    - loss: 1.4648 - accuracy: 0.5292 - val_loss: 1.
    5536 - val_accuracy: 0.6000
1532 Epoch 9/100
```

```
1533 1/1 [=====] - 0s 76ms/step
      - loss: 1.6709 - accuracy: 0.4958 - val_loss: 1.
      4621 - val_accuracy: 0.5667
1534 Epoch 10/100
1535 1/1 [=====] - 0s 79ms/step
      - loss: 1.3750 - accuracy: 0.5125 - val_loss: 1.
      2388 - val_accuracy: 0.5500
1536 Epoch 11/100
1537 1/1 [=====] - 0s 81ms/step
      - loss: 1.1309 - accuracy: 0.5708 - val_loss: 1.
      0486 - val_accuracy: 0.5333
1538 Epoch 12/100
1539 1/1 [=====] - 0s 79ms/step
      - loss: 0.9846 - accuracy: 0.5875 - val_loss: 0.
      9343 - val_accuracy: 0.6000
1540 Epoch 13/100
1541 1/1 [=====] - 0s 79ms/step
      - loss: 0.8850 - accuracy: 0.6417 - val_loss: 0.
      8413 - val_accuracy: 0.7167
1542 Epoch 14/100
1543 1/1 [=====] - 0s 80ms/step
      - loss: 0.8335 - accuracy: 0.6750 - val_loss: 0.
      8879 - val_accuracy: 0.5833
1544 Epoch 15/100
1545 1/1 [=====] - 0s 76ms/step
      - loss: 0.8892 - accuracy: 0.6250 - val_loss: 0.
      8914 - val_accuracy: 0.5833
1546 Epoch 16/100
1547 1/1 [=====] - 0s 80ms/step
      - loss: 0.8373 - accuracy: 0.6250 - val_loss: 0.
      8596 - val_accuracy: 0.6000
1548 Epoch 17/100
1549 1/1 [=====] - 0s 79ms/step
      - loss: 0.7855 - accuracy: 0.6542 - val_loss: 0.
      8301 - val_accuracy: 0.7167
1550 Epoch 18/100
1551 1/1 [=====] - 0s 73ms/step
      - loss: 0.7479 - accuracy: 0.7167 - val_loss: 0.
      8347 - val_accuracy: 0.5833
1552 Epoch 19/100
1553 1/1 [=====] - 0s 71ms/step
      - loss: 0.7625 - accuracy: 0.6042 - val_loss: 0.
      8677 - val_accuracy: 0.6000
1554 Epoch 20/100
```

```
1555 1/1 [=====] - 0s 69ms/step
      - loss: 0.7557 - accuracy: 0.6208 - val_loss: 0.
      8725 - val_accuracy: 0.7667
1556 Epoch 21/100
1557 1/1 [=====] - 0s 69ms/step
      - loss: 0.6800 - accuracy: 0.7292 - val_loss: 0.
      8309 - val_accuracy: 0.7667
1558 Epoch 22/100
1559 1/1 [=====] - 0s 76ms/step
      - loss: 0.6404 - accuracy: 0.7792 - val_loss: 0.
      7809 - val_accuracy: 0.8167
1560 Epoch 23/100
1561 1/1 [=====] - 0s 77ms/step
      - loss: 0.6240 - accuracy: 0.7792 - val_loss: 0.
      7602 - val_accuracy: 0.8167
1562 Epoch 24/100
1563 1/1 [=====] - 0s 77ms/step
      - loss: 0.6124 - accuracy: 0.7500 - val_loss: 0.
      7459 - val_accuracy: 0.8167
1564 Epoch 25/100
1565 1/1 [=====] - 0s 74ms/step
      - loss: 0.5937 - accuracy: 0.7958 - val_loss: 0.
      7416 - val_accuracy: 0.8167
1566 Epoch 26/100
1567 1/1 [=====] - 0s 74ms/step
      - loss: 0.5384 - accuracy: 0.8042 - val_loss: 0.
      7516 - val_accuracy: 0.8167
1568 Epoch 27/100
1569 1/1 [=====] - 0s 75ms/step
      - loss: 0.5076 - accuracy: 0.8208 - val_loss: 0.
      7682 - val_accuracy: 0.8000
1570 Epoch 28/100
1571 1/1 [=====] - 0s 75ms/step
      - loss: 0.4959 - accuracy: 0.8250 - val_loss: 0.
      7529 - val_accuracy: 0.8167
1572 Epoch 29/100
1573 1/1 [=====] - 0s 74ms/step
      - loss: 0.4751 - accuracy: 0.8167 - val_loss: 0.
      7297 - val_accuracy: 0.8167
1574 Epoch 30/100
1575 1/1 [=====] - 0s 75ms/step
      - loss: 0.4775 - accuracy: 0.8292 - val_loss: 0.
      7099 - val_accuracy: 0.8167
1576 Epoch 31/100
```

```
1577 1/1 [=====] - 0s 75ms/step
      - loss: 0.4736 - accuracy: 0.8208 - val_loss: 0.
      6944 - val_accuracy: 0.8167
1578 Epoch 32/100
1579 1/1 [=====] - 0s 76ms/step
      - loss: 0.4128 - accuracy: 0.8542 - val_loss: 0.
      6829 - val_accuracy: 0.8333
1580 Epoch 33/100
1581 1/1 [=====] - 0s 74ms/step
      - loss: 0.3803 - accuracy: 0.8667 - val_loss: 0.
      6775 - val_accuracy: 0.8333
1582 Epoch 34/100
1583 1/1 [=====] - 0s 70ms/step
      - loss: 0.4114 - accuracy: 0.8500 - val_loss: 0.
      6806 - val_accuracy: 0.8333
1584 Epoch 35/100
1585 1/1 [=====] - 0s 77ms/step
      - loss: 0.3834 - accuracy: 0.8792 - val_loss: 0.
      6900 - val_accuracy: 0.8333
1586 Epoch 36/100
1587 1/1 [=====] - 0s 80ms/step
      - loss: 0.3696 - accuracy: 0.8792 - val_loss: 0.
      7025 - val_accuracy: 0.8333
1588 Epoch 37/100
1589 1/1 [=====] - 0s 81ms/step
      - loss: 0.3703 - accuracy: 0.8750 - val_loss: 0.
      7163 - val_accuracy: 0.8333
1590 Epoch 38/100
1591 1/1 [=====] - 0s 75ms/step
      - loss: 0.3856 - accuracy: 0.8583 - val_loss: 0.
      7256 - val_accuracy: 0.8167
1592 Epoch 39/100
1593 1/1 [=====] - 0s 80ms/step
      - loss: 0.3413 - accuracy: 0.8667 - val_loss: 0.
      7190 - val_accuracy: 0.8333
1594 Epoch 40/100
1595 1/1 [=====] - 0s 70ms/step
      - loss: 0.3349 - accuracy: 0.8750 - val_loss: 0.
      7024 - val_accuracy: 0.8333
1596 Epoch 41/100
1597 1/1 [=====] - 0s 68ms/step
      - loss: 0.3207 - accuracy: 0.8667 - val_loss: 0.
      6898 - val_accuracy: 0.8333
1598 Epoch 42/100
```

```
1599 1/1 [=====] - 0s 74ms/step
      - loss: 0.3356 - accuracy: 0.8792 - val_loss: 0.
      6839 - val_accuracy: 0.8500
1600 Epoch 43/100
1601 1/1 [=====] - 0s 72ms/step
      - loss: 0.3165 - accuracy: 0.8792 - val_loss: 0.
      6787 - val_accuracy: 0.8500
1602 Epoch 44/100
1603 1/1 [=====] - 0s 73ms/step
      - loss: 0.3164 - accuracy: 0.8833 - val_loss: 0.
      6940 - val_accuracy: 0.8500
1604 Epoch 45/100
1605 1/1 [=====] - 0s 70ms/step
      - loss: 0.3172 - accuracy: 0.8833 - val_loss: 0.
      7086 - val_accuracy: 0.8667
1606 Epoch 46/100
1607 1/1 [=====] - 0s 70ms/step
      - loss: 0.2785 - accuracy: 0.8875 - val_loss: 0.
      7165 - val_accuracy: 0.8833
1608 Epoch 47/100
1609 1/1 [=====] - 0s 66ms/step
      - loss: 0.2783 - accuracy: 0.8875 - val_loss: 0.
      7199 - val_accuracy: 0.8833
1610 Epoch 48/100
1611 1/1 [=====] - 0s 72ms/step
      - loss: 0.2757 - accuracy: 0.8792 - val_loss: 0.
      7099 - val_accuracy: 0.8667
1612 Epoch 49/100
1613 1/1 [=====] - 0s 75ms/step
      - loss: 0.2834 - accuracy: 0.8792 - val_loss: 0.
      6921 - val_accuracy: 0.8667
1614 Epoch 50/100
1615 1/1 [=====] - 0s 77ms/step
      - loss: 0.2698 - accuracy: 0.8875 - val_loss: 0.
      6825 - val_accuracy: 0.8667
1616 Epoch 51/100
1617 1/1 [=====] - 0s 76ms/step
      - loss: 0.2501 - accuracy: 0.9000 - val_loss: 0.
      6842 - val_accuracy: 0.8667
1618 Epoch 52/100
1619 1/1 [=====] - 0s 75ms/step
      - loss: 0.2558 - accuracy: 0.8917 - val_loss: 0.
      7030 - val_accuracy: 0.8667
1620 Epoch 53/100
```

```
1621 1/1 [=====] - 0s 75ms/step
      - loss: 0.2360 - accuracy: 0.8875 - val_loss: 0.
      7239 - val_accuracy: 0.8667
1622 Epoch 54/100
1623 1/1 [=====] - 0s 76ms/step
      - loss: 0.2590 - accuracy: 0.8792 - val_loss: 0.
      7386 - val_accuracy: 0.8667
1624 Epoch 55/100
1625 1/1 [=====] - 0s 76ms/step
      - loss: 0.2466 - accuracy: 0.8958 - val_loss: 0.
      7384 - val_accuracy: 0.8500
1626 Epoch 56/100
1627 1/1 [=====] - 0s 81ms/step
      - loss: 0.2295 - accuracy: 0.9083 - val_loss: 0.
      7238 - val_accuracy: 0.8500
1628 Epoch 57/100
1629 1/1 [=====] - 0s 70ms/step
      - loss: 0.2125 - accuracy: 0.9000 - val_loss: 0.
      7209 - val_accuracy: 0.8667
1630 Epoch 58/100
1631 1/1 [=====] - 0s 81ms/step
      - loss: 0.2163 - accuracy: 0.9000 - val_loss: 0.
      7139 - val_accuracy: 0.8667
1632 Epoch 59/100
1633 1/1 [=====] - 0s 78ms/step
      - loss: 0.2245 - accuracy: 0.8875 - val_loss: 0.
      7116 - val_accuracy: 0.8667
1634 Epoch 60/100
1635 1/1 [=====] - 0s 82ms/step
      - loss: 0.2113 - accuracy: 0.9042 - val_loss: 0.
      7157 - val_accuracy: 0.8667
1636 Epoch 61/100
1637 1/1 [=====] - 0s 81ms/step
      - loss: 0.2185 - accuracy: 0.9042 - val_loss: 0.
      7302 - val_accuracy: 0.8667
1638 Epoch 62/100
1639 1/1 [=====] - 0s 68ms/step
      - loss: 0.2082 - accuracy: 0.9125 - val_loss: 0.
      7517 - val_accuracy: 0.8667
1640 Epoch 63/100
1641 1/1 [=====] - 0s 66ms/step
      - loss: 0.1983 - accuracy: 0.9125 - val_loss: 0.
      7678 - val_accuracy: 0.8667
1642 Epoch 64/100
```

```
1643 1/1 [=====] - 0s 69ms/step
      - loss: 0.1870 - accuracy: 0.9125 - val_loss: 0.
      7625 - val_accuracy: 0.8667
1644 Epoch 65/100
1645 1/1 [=====] - 0s 71ms/step
      - loss: 0.2142 - accuracy: 0.8833 - val_loss: 0.
      7355 - val_accuracy: 0.8667
1646 Epoch 66/100
1647 1/1 [=====] - 0s 69ms/step
      - loss: 0.1848 - accuracy: 0.9125 - val_loss: 0.
      7098 - val_accuracy: 0.8667
1648 Epoch 67/100
1649 1/1 [=====] - 0s 69ms/step
      - loss: 0.1841 - accuracy: 0.9083 - val_loss: 0.
      6922 - val_accuracy: 0.8667
1650 Epoch 68/100
1651 1/1 [=====] - 0s 67ms/step
      - loss: 0.1797 - accuracy: 0.9292 - val_loss: 0.
      6892 - val_accuracy: 0.8667
1652 Epoch 69/100
1653 1/1 [=====] - 0s 71ms/step
      - loss: 0.1872 - accuracy: 0.9250 - val_loss: 0.
      6910 - val_accuracy: 0.8667
1654 Epoch 70/100
1655 1/1 [=====] - 0s 76ms/step
      - loss: 0.1953 - accuracy: 0.9333 - val_loss: 0.
      7060 - val_accuracy: 0.8667
1656 Epoch 71/100
1657 1/1 [=====] - 0s 73ms/step
      - loss: 0.1645 - accuracy: 0.9417 - val_loss: 0.
      7303 - val_accuracy: 0.8667
1658 Epoch 72/100
1659 1/1 [=====] - 0s 68ms/step
      - loss: 0.1590 - accuracy: 0.9375 - val_loss: 0.
      7641 - val_accuracy: 0.8667
1660 Epoch 73/100
1661 1/1 [=====] - 0s 67ms/step
      - loss: 0.1663 - accuracy: 0.9292 - val_loss: 0.
      7785 - val_accuracy: 0.8667
1662 Epoch 74/100
1663 1/1 [=====] - 0s 71ms/step
      - loss: 0.1617 - accuracy: 0.9333 - val_loss: 0.
      7587 - val_accuracy: 0.8667
1664 Epoch 75/100
```

```
1665 1/1 [=====] - 0s 69ms/step
      - loss: 0.1597 - accuracy: 0.9542 - val_loss: 0.
      7430 - val_accuracy: 0.8667
1666 Epoch 76/100
1667 1/1 [=====] - 0s 73ms/step
      - loss: 0.1454 - accuracy: 0.9375 - val_loss: 0.
      7417 - val_accuracy: 0.8667
1668 Epoch 77/100
1669 1/1 [=====] - 0s 71ms/step
      - loss: 0.1364 - accuracy: 0.9458 - val_loss: 0.
      7544 - val_accuracy: 0.8667
1670 Epoch 78/100
1671 1/1 [=====] - 0s 70ms/step
      - loss: 0.1608 - accuracy: 0.9292 - val_loss: 0.
      7676 - val_accuracy: 0.8667
1672 Epoch 79/100
1673 1/1 [=====] - 0s 69ms/step
      - loss: 0.1913 - accuracy: 0.9417 - val_loss: 0.
      7475 - val_accuracy: 0.8667
1674 Epoch 80/100
1675 1/1 [=====] - 0s 76ms/step
      - loss: 0.1559 - accuracy: 0.9333 - val_loss: 0.
      7376 - val_accuracy: 0.8667
1676 Epoch 81/100
1677 1/1 [=====] - 0s 70ms/step
      - loss: 0.1749 - accuracy: 0.9500 - val_loss: 0.
      7386 - val_accuracy: 0.8667
1678 Epoch 82/100
1679 1/1 [=====] - 0s 71ms/step
      - loss: 0.1556 - accuracy: 0.9458 - val_loss: 0.
      7600 - val_accuracy: 0.8667
1680 Epoch 83/100
1681 1/1 [=====] - 0s 70ms/step
      - loss: 0.1389 - accuracy: 0.9542 - val_loss: 0.
      8060 - val_accuracy: 0.8667
1682 Epoch 84/100
1683 1/1 [=====] - 0s 69ms/step
      - loss: 0.1579 - accuracy: 0.9417 - val_loss: 0.
      8217 - val_accuracy: 0.8667
1684 Epoch 85/100
1685 1/1 [=====] - 0s 71ms/step
      - loss: 0.1257 - accuracy: 0.9417 - val_loss: 0.
      8110 - val_accuracy: 0.8667
1686 Epoch 86/100
```

```
1687 1/1 [=====] - 0s 66ms/step
      - loss: 0.1505 - accuracy: 0.9458 - val_loss: 0.
      7891 - val_accuracy: 0.8667
1688 Epoch 87/100
1689 1/1 [=====] - 0s 68ms/step
      - loss: 0.1036 - accuracy: 0.9750 - val_loss: 0.
      7832 - val_accuracy: 0.8667
1690 Epoch 88/100
1691 1/1 [=====] - 0s 70ms/step
      - loss: 0.1228 - accuracy: 0.9542 - val_loss: 0.
      7865 - val_accuracy: 0.8667
1692 Epoch 89/100
1693 1/1 [=====] - 0s 72ms/step
      - loss: 0.1288 - accuracy: 0.9458 - val_loss: 0.
      7866 - val_accuracy: 0.8667
1694 Epoch 90/100
1695 1/1 [=====] - 0s 70ms/step
      - loss: 0.1044 - accuracy: 0.9708 - val_loss: 0.
      7969 - val_accuracy: 0.8667
1696 Epoch 91/100
1697 1/1 [=====] - 0s 73ms/step
      - loss: 0.1023 - accuracy: 0.9708 - val_loss: 0.
      8110 - val_accuracy: 0.8667
1698 Epoch 92/100
1699 1/1 [=====] - 0s 71ms/step
      - loss: 0.1093 - accuracy: 0.9583 - val_loss: 0.
      8138 - val_accuracy: 0.8667
1700 Epoch 93/100
1701 1/1 [=====] - 0s 68ms/step
      - loss: 0.1026 - accuracy: 0.9875 - val_loss: 0.
      8210 - val_accuracy: 0.8667
1702 Epoch 94/100
1703 1/1 [=====] - 0s 70ms/step
      - loss: 0.0991 - accuracy: 0.9750 - val_loss: 0.
      8298 - val_accuracy: 0.8667
1704 Epoch 95/100
1705 1/1 [=====] - 0s 71ms/step
      - loss: 0.1015 - accuracy: 0.9667 - val_loss: 0.
      8239 - val_accuracy: 0.8667
1706 Epoch 96/100
1707 1/1 [=====] - 0s 72ms/step
      - loss: 0.0757 - accuracy: 0.9875 - val_loss: 0.
      8210 - val_accuracy: 0.8667
1708 Epoch 97/100
```

```
1709 1/1 [=====] - 0s 71ms/step
      - loss: 0.0912 - accuracy: 0.9750 - val_loss: 0.
      8215 - val_accuracy: 0.8667
1710 Epoch 98/100
1711 1/1 [=====] - 0s 66ms/step
      - loss: 0.0896 - accuracy: 0.9750 - val_loss: 0.
      8161 - val_accuracy: 0.8667
1712 Epoch 99/100
1713 1/1 [=====] - 0s 78ms/step
      - loss: 0.1051 - accuracy: 0.9542 - val_loss: 0.
      8194 - val_accuracy: 0.8667
1714 Epoch 100/100
1715 1/1 [=====] - 0s 74ms/step
      - loss: 0.1143 - accuracy: 0.9500 - val_loss: 0.
      8281 - val_accuracy: 0.8667
1716
1717 Duration of training
1718 --- 111.90524220466614 seconds ---
1719
1720 Predicting...
1721 2/2 [=====] - 0s 15ms/step
      - loss: 0.8282 - accuracy: 0.8667
1722 score = [0.8281500339508057, 0.866666746139526]
1723
1724 Duration of prediction
1725 --- 0.12122821807861328 seconds ---
1726
1727 --- Comparison of actual vs predicted ---
1728 WARNING:tensorflow:5 out of the last 9 calls to <
           function Model.make_predict_function.<locals>.
           predict_function at 0x0000027A3E56D160> triggered
           tf.function retracing. Tracing is expensive and the
           excessive number of tracings could be due to (1)
           creating @tf.function repeatedly in a loop, (2)
           passing tensors with different shapes, (3) passing
           Python objects instead of tensors. For (1), please
           define your @tf.function outside of the loop. For (2),
           @tf.function has experimental_relax_shapes=True
           option that relaxes argument shapes that can avoid
           unnecessary retracing. For (3), please refer to
           https://www.tensorflow.org/tutorials/customization/
           performance#python_or_tensor_args and https://www.
           tensorflow.org/api_docs/python/tf/function for
           more details.
```

1729	Actual:	Apple	Predicted:	Apple
1730	Actual:	Apple	Predicted:	Apple
1731	Actual:	Apple	Predicted:	Apple
1732	Actual:	Apple	Predicted:	Apple
1733	Actual:	Apple	Predicted:	Apple
1734	Actual:	Apple	Predicted:	Apple
1735	Actual:	Apple	Predicted:	Apple
1736	Actual:	Apple	Predicted:	Apple
1737	Actual:	Apple	Predicted:	Apple
1738	Actual:	Apple	Predicted:	Banana
1739	Actual:	Apple	Predicted:	Apple
1740	Actual:	Apple	Predicted:	Apple
1741	Actual:	Apple	Predicted:	Apple
1742	Actual:	Apple	Predicted:	Apple
1743	Actual:	Apple	Predicted:	Apple
1744	Actual:	Apple	Predicted:	Apple
1745	Actual:	Apple	Predicted:	Apple
1746	Actual:	Apple	Predicted:	Apple
1747	Actual:	Apple	Predicted:	Apple
1748	Actual:	Banana	Predicted:	Banana
1749	Actual:	Banana	Predicted:	Banana
1750	Actual:	Banana	Predicted:	Banana
1751	Actual:	Banana	Predicted:	Banana
1752	Actual:	Banana	Predicted:	Banana
1753	Actual:	Banana	Predicted:	Banana
1754	Actual:	Banana	Predicted:	Banana
1755	Actual:	Banana	Predicted:	Banana
1756	Actual:	Banana	Predicted:	Banana
1757	Actual:	Banana	Predicted:	Orange
1758	Actual:	Banana	Predicted:	Banana
1759	Actual:	Banana	Predicted:	Apple
1760	Actual:	Banana	Predicted:	Banana
1761	Actual:	Banana	Predicted:	Banana
1762	Actual:	Banana	Predicted:	Banana
1763	Actual:	Banana	Predicted:	Banana
1764	Actual:	Banana	Predicted:	Banana
1765	Actual:	Banana	Predicted:	Banana
1766	Actual:	Mixed Fruits	Predicted:	Orange
1767	Actual:	Mixed Fruits	Predicted:	Banana
1768	Actual:	Mixed Fruits	Predicted:	Apple
1769	Actual:	Mixed Fruits	Predicted:	Banana
1770	Actual:	Mixed Fruits	Predicted:	Apple
1771	Actual:	Orange	Predicted:	Orange
1772	Actual:	Orange	Predicted:	Orange

```
1773 Actual: Orange Predicted: Orange
1774 Actual: Orange Predicted: Orange
1775 Actual: Orange Predicted: Orange
1776 Actual: Orange Predicted: Orange
1777 Actual: Orange Predicted: Orange
1778 Actual: Orange Predicted: Orange
1779 Actual: Orange Predicted: Orange
1780 Actual: Orange Predicted: Orange
1781 Actual: Orange Predicted: Orange
1782 Actual: Orange Predicted: Orange
1783 Actual: Orange Predicted: Orange
1784 Actual: Orange Predicted: Orange
1785 Actual: Orange Predicted: Orange
1786 Actual: Orange Predicted: Orange
1787 Actual: Orange Predicted: Orange
1788 Actual: Orange Predicted: Orange
1789 Epoch 1/300
1790 1/1 [=====] - 0s 159ms/
  step - loss: 1.5570 - accuracy: 0.2042 - val_loss:
  1.8118 - val_accuracy: 0.3333
1791 Epoch 2/300
1792 1/1 [=====] - 0s 64ms/step
  - loss: 1.8235 - accuracy: 0.3292 - val_loss: 1.
  5195 - val_accuracy: 0.3000
1793 Epoch 3/300
1794 1/1 [=====] - 0s 63ms/step
  - loss: 1.5685 - accuracy: 0.3208 - val_loss: 1.
  7067 - val_accuracy: 0.3167
1795 Epoch 4/300
1796 1/1 [=====] - 0s 60ms/step
  - loss: 1.6401 - accuracy: 0.3208 - val_loss: 1.
  5289 - val_accuracy: 0.3167
1797 Epoch 5/300
1798 1/1 [=====] - 0s 62ms/step
  - loss: 1.5074 - accuracy: 0.3500 - val_loss: 1.
  2770 - val_accuracy: 0.5333
1799 Epoch 6/300
1800 1/1 [=====] - 0s 60ms/step
  - loss: 1.2837 - accuracy: 0.4875 - val_loss: 1.
  2043 - val_accuracy: 0.4833
1801 Epoch 7/300
1802 1/1 [=====] - 0s 62ms/step
  - loss: 1.1955 - accuracy: 0.4417 - val_loss: 1.
  1812 - val_accuracy: 0.4333
```

```
1803 Epoch 8/300
1804 1/1 [=====] - 0s 62ms/step
    - loss: 1.1645 - accuracy: 0.4833 - val_loss: 1.
    1538 - val_accuracy: 0.4167
1805 Epoch 9/300
1806 1/1 [=====] - 0s 58ms/step
    - loss: 1.1372 - accuracy: 0.5000 - val_loss: 1.
    1158 - val_accuracy: 0.5333
1807 Epoch 10/300
1808 1/1 [=====] - 0s 60ms/step
    - loss: 1.0652 - accuracy: 0.5792 - val_loss: 1.
    0733 - val_accuracy: 0.6667
1809 Epoch 11/300
1810 1/1 [=====] - 0s 61ms/step
    - loss: 1.0323 - accuracy: 0.6417 - val_loss: 1.
    0265 - val_accuracy: 0.7333
1811 Epoch 12/300
1812 1/1 [=====] - 0s 61ms/step
    - loss: 0.9517 - accuracy: 0.7333 - val_loss: 1.
    0062 - val_accuracy: 0.6167
1813 Epoch 13/300
1814 1/1 [=====] - 0s 59ms/step
    - loss: 0.9342 - accuracy: 0.6583 - val_loss: 0.
    9897 - val_accuracy: 0.5333
1815 Epoch 14/300
1816 1/1 [=====] - 0s 60ms/step
    - loss: 0.9036 - accuracy: 0.6625 - val_loss: 0.
    9429 - val_accuracy: 0.7167
1817 Epoch 15/300
1818 1/1 [=====] - 0s 58ms/step
    - loss: 0.8472 - accuracy: 0.7083 - val_loss: 0.
    8843 - val_accuracy: 0.7500
1819 Epoch 16/300
1820 1/1 [=====] - 0s 59ms/step
    - loss: 0.7652 - accuracy: 0.7792 - val_loss: 0.
    8509 - val_accuracy: 0.7667
1821 Epoch 17/300
1822 1/1 [=====] - 0s 60ms/step
    - loss: 0.7521 - accuracy: 0.7958 - val_loss: 0.
    8429 - val_accuracy: 0.7333
1823 Epoch 18/300
1824 1/1 [=====] - 0s 59ms/step
    - loss: 0.7202 - accuracy: 0.7792 - val_loss: 0.
    8371 - val_accuracy: 0.6833
```

```
1825 Epoch 19/300
1826 1/1 [=====] - 0s 61ms/step
    - loss: 0.7070 - accuracy: 0.7875 - val_loss: 0.
    8134 - val_accuracy: 0.7167
1827 Epoch 20/300
1828 1/1 [=====] - 0s 59ms/step
    - loss: 0.6839 - accuracy: 0.8083 - val_loss: 0.
    7779 - val_accuracy: 0.7500
1829 Epoch 21/300
1830 1/1 [=====] - 0s 66ms/step
    - loss: 0.6334 - accuracy: 0.8250 - val_loss: 0.
    7496 - val_accuracy: 0.7833
1831 Epoch 22/300
1832 1/1 [=====] - 0s 66ms/step
    - loss: 0.6024 - accuracy: 0.8417 - val_loss: 0.
    7394 - val_accuracy: 0.7833
1833 Epoch 23/300
1834 1/1 [=====] - 0s 60ms/step
    - loss: 0.5778 - accuracy: 0.8417 - val_loss: 0.
    7346 - val_accuracy: 0.7667
1835 Epoch 24/300
1836 1/1 [=====] - 0s 54ms/step
    - loss: 0.5590 - accuracy: 0.8500 - val_loss: 0.
    7199 - val_accuracy: 0.7500
1837 Epoch 25/300
1838 1/1 [=====] - 0s 63ms/step
    - loss: 0.5282 - accuracy: 0.8542 - val_loss: 0.
    6996 - val_accuracy: 0.7833
1839 Epoch 26/300
1840 1/1 [=====] - 0s 59ms/step
    - loss: 0.5007 - accuracy: 0.8792 - val_loss: 0.
    6802 - val_accuracy: 0.7667
1841 Epoch 27/300
1842 1/1 [=====] - 0s 61ms/step
    - loss: 0.4709 - accuracy: 0.8792 - val_loss: 0.
    6671 - val_accuracy: 0.7833
1843 Epoch 28/300
1844 1/1 [=====] - 0s 60ms/step
    - loss: 0.4622 - accuracy: 0.9083 - val_loss: 0.
    6582 - val_accuracy: 0.8000
1845 Epoch 29/300
1846 1/1 [=====] - 0s 62ms/step
    - loss: 0.4323 - accuracy: 0.9042 - val_loss: 0.
    6500 - val_accuracy: 0.8000
```

```
1847 Epoch 30/300
1848 1/1 [=====] - 0s 63ms/step
      - loss: 0.4296 - accuracy: 0.8708 - val_loss: 0.
      6438 - val_accuracy: 0.8000
1849 Epoch 31/300
1850 1/1 [=====] - 0s 62ms/step
      - loss: 0.3932 - accuracy: 0.8792 - val_loss: 0.
      6415 - val_accuracy: 0.7833
1851 Epoch 32/300
1852 1/1 [=====] - 0s 60ms/step
      - loss: 0.3720 - accuracy: 0.8917 - val_loss: 0.
      6454 - val_accuracy: 0.7833
1853 Epoch 33/300
1854 1/1 [=====] - 0s 60ms/step
      - loss: 0.3548 - accuracy: 0.8833 - val_loss: 0.
      6488 - val_accuracy: 0.8000
1855 Epoch 34/300
1856 1/1 [=====] - 0s 63ms/step
      - loss: 0.3674 - accuracy: 0.8917 - val_loss: 0.
      6453 - val_accuracy: 0.8000
1857 Epoch 35/300
1858 1/1 [=====] - 0s 62ms/step
      - loss: 0.3444 - accuracy: 0.8958 - val_loss: 0.
      6366 - val_accuracy: 0.7833
1859 Epoch 36/300
1860 1/1 [=====] - 0s 63ms/step
      - loss: 0.3120 - accuracy: 0.9125 - val_loss: 0.
      6311 - val_accuracy: 0.8000
1861 Epoch 37/300
1862 1/1 [=====] - 0s 66ms/step
      - loss: 0.3043 - accuracy: 0.9250 - val_loss: 0.
      6296 - val_accuracy: 0.8000
1863 Epoch 38/300
1864 1/1 [=====] - 0s 61ms/step
      - loss: 0.2993 - accuracy: 0.9417 - val_loss: 0.
      6231 - val_accuracy: 0.8000
1865 Epoch 39/300
1866 1/1 [=====] - 0s 62ms/step
      - loss: 0.2921 - accuracy: 0.9333 - val_loss: 0.
      6144 - val_accuracy: 0.8000
1867 Epoch 40/300
1868 1/1 [=====] - 0s 61ms/step
      - loss: 0.2690 - accuracy: 0.9333 - val_loss: 0.
      6105 - val_accuracy: 0.8000
```

```
1869 Epoch 41/300
1870 1/1 [=====] - 0s 62ms/step
      - loss: 0.2840 - accuracy: 0.9208 - val_loss: 0.
      6131 - val_accuracy: 0.8000
1871 Epoch 42/300
1872 1/1 [=====] - 0s 66ms/step
      - loss: 0.2434 - accuracy: 0.9458 - val_loss: 0.
      6194 - val_accuracy: 0.8000
1873 Epoch 43/300
1874 1/1 [=====] - 0s 64ms/step
      - loss: 0.2448 - accuracy: 0.9292 - val_loss: 0.
      6289 - val_accuracy: 0.8167
1875 Epoch 44/300
1876 1/1 [=====] - 0s 60ms/step
      - loss: 0.2423 - accuracy: 0.9542 - val_loss: 0.
      6394 - val_accuracy: 0.8167
1877 Epoch 45/300
1878 1/1 [=====] - 0s 64ms/step
      - loss: 0.2411 - accuracy: 0.9417 - val_loss: 0.
      6374 - val_accuracy: 0.8167
1879 Epoch 46/300
1880 1/1 [=====] - 0s 60ms/step
      - loss: 0.2261 - accuracy: 0.9583 - val_loss: 0.
      6245 - val_accuracy: 0.8167
1881 Epoch 47/300
1882 1/1 [=====] - 0s 63ms/step
      - loss: 0.2156 - accuracy: 0.9542 - val_loss: 0.
      6110 - val_accuracy: 0.8167
1883 Epoch 48/300
1884 1/1 [=====] - 0s 66ms/step
      - loss: 0.2050 - accuracy: 0.9583 - val_loss: 0.
      6050 - val_accuracy: 0.8333
1885 Epoch 49/300
1886 1/1 [=====] - 0s 61ms/step
      - loss: 0.1972 - accuracy: 0.9625 - val_loss: 0.
      6020 - val_accuracy: 0.8333
1887 Epoch 50/300
1888 1/1 [=====] - 0s 61ms/step
      - loss: 0.1999 - accuracy: 0.9583 - val_loss: 0.
      6011 - val_accuracy: 0.8167
1889 Epoch 51/300
1890 1/1 [=====] - 0s 77ms/step
      - loss: 0.1920 - accuracy: 0.9750 - val_loss: 0.
      6062 - val_accuracy: 0.8167
```

```
1891 Epoch 52/300
1892 1/1 [=====] - 0s 61ms/step
    - loss: 0.1843 - accuracy: 0.9542 - val_loss: 0.
    6097 - val_accuracy: 0.8167
1893 Epoch 53/300
1894 1/1 [=====] - 0s 64ms/step
    - loss: 0.1734 - accuracy: 0.9667 - val_loss: 0.
    6091 - val_accuracy: 0.8167
1895 Epoch 54/300
1896 1/1 [=====] - 0s 61ms/step
    - loss: 0.1689 - accuracy: 0.9708 - val_loss: 0.
    6083 - val_accuracy: 0.8167
1897 Epoch 55/300
1898 1/1 [=====] - 0s 65ms/step
    - loss: 0.1649 - accuracy: 0.9667 - val_loss: 0.
    6096 - val_accuracy: 0.8167
1899 Epoch 56/300
1900 1/1 [=====] - 0s 63ms/step
    - loss: 0.1403 - accuracy: 0.9750 - val_loss: 0.
    6133 - val_accuracy: 0.8333
1901 Epoch 57/300
1902 1/1 [=====] - 0s 72ms/step
    - loss: 0.1638 - accuracy: 0.9625 - val_loss: 0.
    6124 - val_accuracy: 0.8333
1903 Epoch 58/300
1904 1/1 [=====] - 0s 63ms/step
    - loss: 0.1402 - accuracy: 0.9792 - val_loss: 0.
    6097 - val_accuracy: 0.8333
1905 Epoch 59/300
1906 1/1 [=====] - 0s 64ms/step
    - loss: 0.1408 - accuracy: 0.9875 - val_loss: 0.
    6047 - val_accuracy: 0.8167
1907 Epoch 60/300
1908 1/1 [=====] - 0s 63ms/step
    - loss: 0.1405 - accuracy: 0.9750 - val_loss: 0.
    6003 - val_accuracy: 0.8333
1909 Epoch 61/300
1910 1/1 [=====] - 0s 62ms/step
    - loss: 0.1233 - accuracy: 0.9917 - val_loss: 0.
    5965 - val_accuracy: 0.8333
1911 Epoch 62/300
1912 1/1 [=====] - 0s 62ms/step
    - loss: 0.1275 - accuracy: 0.9792 - val_loss: 0.
    5956 - val_accuracy: 0.8333
```

```
1913 Epoch 63/300
1914 1/1 [=====] - 0s 63ms/step
      - loss: 0.1176 - accuracy: 0.9875 - val_loss: 0.
      5968 - val_accuracy: 0.8333
1915 Epoch 64/300
1916 1/1 [=====] - 0s 62ms/step
      - loss: 0.1210 - accuracy: 0.9875 - val_loss: 0.
      6014 - val_accuracy: 0.8333
1917 Epoch 65/300
1918 1/1 [=====] - 0s 62ms/step
      - loss: 0.1184 - accuracy: 0.9875 - val_loss: 0.
      6056 - val_accuracy: 0.8500
1919 Epoch 66/300
1920 1/1 [=====] - 0s 57ms/step
      - loss: 0.1109 - accuracy: 0.9958 - val_loss: 0.
      6074 - val_accuracy: 0.8500
1921 Epoch 67/300
1922 1/1 [=====] - 0s 60ms/step
      - loss: 0.1116 - accuracy: 0.9833 - val_loss: 0.
      6103 - val_accuracy: 0.8500
1923 Epoch 68/300
1924 1/1 [=====] - 0s 62ms/step
      - loss: 0.1069 - accuracy: 0.9875 - val_loss: 0.
      6090 - val_accuracy: 0.8500
1925 Epoch 69/300
1926 1/1 [=====] - 0s 68ms/step
      - loss: 0.1021 - accuracy: 0.9958 - val_loss: 0.
      6078 - val_accuracy: 0.8500
1927 Epoch 70/300
1928 1/1 [=====] - 0s 63ms/step
      - loss: 0.0994 - accuracy: 0.9917 - val_loss: 0.
      6060 - val_accuracy: 0.8667
1929 Epoch 71/300
1930 1/1 [=====] - 0s 62ms/step
      - loss: 0.0983 - accuracy: 0.9958 - val_loss: 0.
      6056 - val_accuracy: 0.8500
1931 Epoch 72/300
1932 1/1 [=====] - 0s 66ms/step
      - loss: 0.0924 - accuracy: 0.9917 - val_loss: 0.
      6078 - val_accuracy: 0.8500
1933 Epoch 73/300
1934 1/1 [=====] - 0s 67ms/step
      - loss: 0.0865 - accuracy: 0.9958 - val_loss: 0.
      6083 - val_accuracy: 0.8500
```

```
1935 Epoch 74/300
1936 1/1 [=====] - 0s 64ms/step
      - loss: 0.0802 - accuracy: 0.9917 - val_loss: 0.
      6083 - val_accuracy: 0.8500
1937 Epoch 75/300
1938 1/1 [=====] - 0s 60ms/step
      - loss: 0.0922 - accuracy: 0.9875 - val_loss: 0.
      6097 - val_accuracy: 0.8500
1939 Epoch 76/300
1940 1/1 [=====] - 0s 60ms/step
      - loss: 0.0794 - accuracy: 0.9958 - val_loss: 0.
      6112 - val_accuracy: 0.8500
1941 Epoch 77/300
1942 1/1 [=====] - 0s 62ms/step
      - loss: 0.0845 - accuracy: 1.0000 - val_loss: 0.
      6138 - val_accuracy: 0.8667
1943 Epoch 78/300
1944 1/1 [=====] - 0s 60ms/step
      - loss: 0.0787 - accuracy: 1.0000 - val_loss: 0.
      6187 - val_accuracy: 0.8500
1945 Epoch 79/300
1946 1/1 [=====] - 0s 68ms/step
      - loss: 0.0780 - accuracy: 0.9917 - val_loss: 0.
      6215 - val_accuracy: 0.8500
1947 Epoch 80/300
1948 1/1 [=====] - 0s 61ms/step
      - loss: 0.0737 - accuracy: 0.9958 - val_loss: 0.
      6208 - val_accuracy: 0.8500
1949 Epoch 81/300
1950 1/1 [=====] - 0s 62ms/step
      - loss: 0.0662 - accuracy: 1.0000 - val_loss: 0.
      6225 - val_accuracy: 0.8667
1951 Epoch 82/300
1952 1/1 [=====] - 0s 63ms/step
      - loss: 0.0704 - accuracy: 1.0000 - val_loss: 0.
      6245 - val_accuracy: 0.8667
1953 Epoch 83/300
1954 1/1 [=====] - 0s 63ms/step
      - loss: 0.0694 - accuracy: 1.0000 - val_loss: 0.
      6231 - val_accuracy: 0.8667
1955 Epoch 84/300
1956 1/1 [=====] - 0s 60ms/step
      - loss: 0.0621 - accuracy: 1.0000 - val_loss: 0.
      6251 - val_accuracy: 0.8500
```

```
1957 Epoch 85/300
1958 1/1 [=====] - 0s 68ms/step
      - loss: 0.0682 - accuracy: 0.9917 - val_loss: 0.
      6272 - val_accuracy: 0.8500
1959 Epoch 86/300
1960 1/1 [=====] - 0s 62ms/step
      - loss: 0.0611 - accuracy: 0.9958 - val_loss: 0.
      6278 - val_accuracy: 0.8500
1961 Epoch 87/300
1962 1/1 [=====] - 0s 61ms/step
      - loss: 0.0590 - accuracy: 1.0000 - val_loss: 0.
      6289 - val_accuracy: 0.8500
1963 Epoch 88/300
1964 1/1 [=====] - 0s 69ms/step
      - loss: 0.0643 - accuracy: 1.0000 - val_loss: 0.
      6294 - val_accuracy: 0.8500
1965 Epoch 89/300
1966 1/1 [=====] - 0s 64ms/step
      - loss: 0.0633 - accuracy: 0.9917 - val_loss: 0.
      6314 - val_accuracy: 0.8500
1967 Epoch 90/300
1968 1/1 [=====] - 0s 60ms/step
      - loss: 0.0543 - accuracy: 1.0000 - val_loss: 0.
      6355 - val_accuracy: 0.8500
1969 Epoch 91/300
1970 1/1 [=====] - 0s 63ms/step
      - loss: 0.0504 - accuracy: 0.9958 - val_loss: 0.
      6391 - val_accuracy: 0.8500
1971 Epoch 92/300
1972 1/1 [=====] - 0s 61ms/step
      - loss: 0.0628 - accuracy: 1.0000 - val_loss: 0.
      6385 - val_accuracy: 0.8500
1973 Epoch 93/300
1974 1/1 [=====] - 0s 61ms/step
      - loss: 0.0573 - accuracy: 0.9958 - val_loss: 0.
      6381 - val_accuracy: 0.8500
1975 Epoch 94/300
1976 1/1 [=====] - 0s 63ms/step
      - loss: 0.0546 - accuracy: 1.0000 - val_loss: 0.
      6385 - val_accuracy: 0.8500
1977 Epoch 95/300
1978 1/1 [=====] - 0s 61ms/step
      - loss: 0.0491 - accuracy: 1.0000 - val_loss: 0.
      6403 - val_accuracy: 0.8500
```

```
1979 Epoch 96/300
1980 1/1 [=====] - 0s 64ms/step
      - loss: 0.0519 - accuracy: 1.0000 - val_loss: 0.
      6405 - val_accuracy: 0.8667
1981 Epoch 97/300
1982 1/1 [=====] - 0s 63ms/step
      - loss: 0.0527 - accuracy: 0.9958 - val_loss: 0.
      6410 - val_accuracy: 0.8667
1983 Epoch 98/300
1984 1/1 [=====] - 0s 63ms/step
      - loss: 0.0535 - accuracy: 0.9958 - val_loss: 0.
      6415 - val_accuracy: 0.8667
1985 Epoch 99/300
1986 1/1 [=====] - 0s 62ms/step
      - loss: 0.0479 - accuracy: 0.9958 - val_loss: 0.
      6424 - val_accuracy: 0.8500
1987 Epoch 100/300
1988 1/1 [=====] - 0s 62ms/step
      - loss: 0.0459 - accuracy: 1.0000 - val_loss: 0.
      6448 - val_accuracy: 0.8500
1989 Epoch 101/300
1990 1/1 [=====] - 0s 63ms/step
      - loss: 0.0399 - accuracy: 1.0000 - val_loss: 0.
      6479 - val_accuracy: 0.8500
1991 Epoch 102/300
1992 1/1 [=====] - 0s 61ms/step
      - loss: 0.0427 - accuracy: 1.0000 - val_loss: 0.
      6516 - val_accuracy: 0.8500
1993 Epoch 103/300
1994 1/1 [=====] - 0s 62ms/step
      - loss: 0.0491 - accuracy: 0.9958 - val_loss: 0.
      6523 - val_accuracy: 0.8500
1995 Epoch 104/300
1996 1/1 [=====] - 0s 61ms/step
      - loss: 0.0440 - accuracy: 1.0000 - val_loss: 0.
      6507 - val_accuracy: 0.8500
1997 Epoch 105/300
1998 1/1 [=====] - 0s 63ms/step
      - loss: 0.0379 - accuracy: 1.0000 - val_loss: 0.
      6519 - val_accuracy: 0.8500
1999 Epoch 106/300
2000 1/1 [=====] - 0s 62ms/step
      - loss: 0.0473 - accuracy: 1.0000 - val_loss: 0.
      6532 - val_accuracy: 0.8667
```

```
2001 Epoch 107/300
2002 1/1 [=====] - 0s 62ms/step
      - loss: 0.0393 - accuracy: 1.0000 - val_loss: 0.
      6552 - val_accuracy: 0.8667
2003 Epoch 108/300
2004 1/1 [=====] - 0s 61ms/step
      - loss: 0.0391 - accuracy: 1.0000 - val_loss: 0.
      6581 - val_accuracy: 0.8500
2005 Epoch 109/300
2006 1/1 [=====] - 0s 67ms/step
      - loss: 0.0355 - accuracy: 1.0000 - val_loss: 0.
      6629 - val_accuracy: 0.8500
2007 Epoch 110/300
2008 1/1 [=====] - 0s 62ms/step
      - loss: 0.0329 - accuracy: 1.0000 - val_loss: 0.
      6680 - val_accuracy: 0.8500
2009 Epoch 111/300
2010 1/1 [=====] - 0s 67ms/step
      - loss: 0.0374 - accuracy: 1.0000 - val_loss: 0.
      6687 - val_accuracy: 0.8500
2011 Epoch 112/300
2012 1/1 [=====] - 0s 68ms/step
      - loss: 0.0397 - accuracy: 1.0000 - val_loss: 0.
      6679 - val_accuracy: 0.8667
2013 Epoch 113/300
2014 1/1 [=====] - 0s 63ms/step
      - loss: 0.0360 - accuracy: 0.9958 - val_loss: 0.
      6690 - val_accuracy: 0.8667
2015 Epoch 114/300
2016 1/1 [=====] - 0s 63ms/step
      - loss: 0.0350 - accuracy: 1.0000 - val_loss: 0.
      6703 - val_accuracy: 0.8667
2017 Epoch 115/300
2018 1/1 [=====] - 0s 68ms/step
      - loss: 0.0387 - accuracy: 1.0000 - val_loss: 0.
      6665 - val_accuracy: 0.8667
2019 Epoch 116/300
2020 1/1 [=====] - 0s 64ms/step
      - loss: 0.0344 - accuracy: 1.0000 - val_loss: 0.
      6636 - val_accuracy: 0.8500
2021 Epoch 117/300
2022 1/1 [=====] - 0s 61ms/step
      - loss: 0.0291 - accuracy: 1.0000 - val_loss: 0.
      6635 - val_accuracy: 0.8500
```

```
2023 Epoch 118/300
2024 1/1 [=====] - 0s 57ms/step
      - loss: 0.0331 - accuracy: 0.9958 - val_loss: 0.
      6639 - val_accuracy: 0.8500
2025 Epoch 119/300
2026 1/1 [=====] - 0s 70ms/step
      - loss: 0.0265 - accuracy: 1.0000 - val_loss: 0.
      6653 - val_accuracy: 0.8500
2027 Epoch 120/300
2028 1/1 [=====] - 0s 62ms/step
      - loss: 0.0329 - accuracy: 0.9958 - val_loss: 0.
      6663 - val_accuracy: 0.8500
2029 Epoch 121/300
2030 1/1 [=====] - 0s 64ms/step
      - loss: 0.0304 - accuracy: 1.0000 - val_loss: 0.
      6690 - val_accuracy: 0.8667
2031 Epoch 122/300
2032 1/1 [=====] - 0s 59ms/step
      - loss: 0.0280 - accuracy: 1.0000 - val_loss: 0.
      6735 - val_accuracy: 0.8667
2033 Epoch 123/300
2034 1/1 [=====] - 0s 67ms/step
      - loss: 0.0290 - accuracy: 1.0000 - val_loss: 0.
      6753 - val_accuracy: 0.8667
2035 Epoch 124/300
2036 1/1 [=====] - 0s 75ms/step
      - loss: 0.0293 - accuracy: 0.9958 - val_loss: 0.
      6759 - val_accuracy: 0.8667
2037 Epoch 125/300
2038 1/1 [=====] - 0s 64ms/step
      - loss: 0.0276 - accuracy: 1.0000 - val_loss: 0.
      6793 - val_accuracy: 0.8500
2039 Epoch 126/300
2040 1/1 [=====] - 0s 64ms/step
      - loss: 0.0311 - accuracy: 1.0000 - val_loss: 0.
      6838 - val_accuracy: 0.8500
2041 Epoch 127/300
2042 1/1 [=====] - 0s 61ms/step
      - loss: 0.0251 - accuracy: 1.0000 - val_loss: 0.
      6878 - val_accuracy: 0.8500
2043 Epoch 128/300
2044 1/1 [=====] - 0s 57ms/step
      - loss: 0.0280 - accuracy: 1.0000 - val_loss: 0.
      6916 - val_accuracy: 0.8500
```

```
2045 Epoch 129/300
2046 1/1 [=====] - 0s 72ms/step
      - loss: 0.0263 - accuracy: 1.0000 - val_loss: 0.
      6946 - val_accuracy: 0.8500
2047 Epoch 130/300
2048 1/1 [=====] - 0s 63ms/step
      - loss: 0.0292 - accuracy: 1.0000 - val_loss: 0.
      6977 - val_accuracy: 0.8500
2049 Epoch 131/300
2050 1/1 [=====] - 0s 62ms/step
      - loss: 0.0282 - accuracy: 1.0000 - val_loss: 0.
      6990 - val_accuracy: 0.8500
2051 Epoch 132/300
2052 1/1 [=====] - 0s 66ms/step
      - loss: 0.0193 - accuracy: 1.0000 - val_loss: 0.
      6988 - val_accuracy: 0.8667
2053 Epoch 133/300
2054 1/1 [=====] - 0s 63ms/step
      - loss: 0.0222 - accuracy: 1.0000 - val_loss: 0.
      6973 - val_accuracy: 0.8667
2055 Epoch 134/300
2056 1/1 [=====] - 0s 63ms/step
      - loss: 0.0237 - accuracy: 1.0000 - val_loss: 0.
      6945 - val_accuracy: 0.8500
2057 Epoch 135/300
2058 1/1 [=====] - 0s 60ms/step
      - loss: 0.0256 - accuracy: 1.0000 - val_loss: 0.
      6922 - val_accuracy: 0.8500
2059 Epoch 136/300
2060 1/1 [=====] - 0s 61ms/step
      - loss: 0.0195 - accuracy: 1.0000 - val_loss: 0.
      6907 - val_accuracy: 0.8500
2061 Epoch 137/300
2062 1/1 [=====] - 0s 56ms/step
      - loss: 0.0222 - accuracy: 1.0000 - val_loss: 0.
      6896 - val_accuracy: 0.8500
2063 Epoch 138/300
2064 1/1 [=====] - 0s 66ms/step
      - loss: 0.0238 - accuracy: 1.0000 - val_loss: 0.
      6877 - val_accuracy: 0.8500
2065 Epoch 139/300
2066 1/1 [=====] - 0s 73ms/step
      - loss: 0.0213 - accuracy: 1.0000 - val_loss: 0.
      6883 - val_accuracy: 0.8500
```

```
2067 Epoch 140/300
2068 1/1 [=====] - 0s 64ms/step
      - loss: 0.0219 - accuracy: 1.0000 - val_loss: 0.
      6918 - val_accuracy: 0.8500
2069 Epoch 141/300
2070 1/1 [=====] - 0s 64ms/step
      - loss: 0.0232 - accuracy: 1.0000 - val_loss: 0.
      6964 - val_accuracy: 0.8500
2071 Epoch 142/300
2072 1/1 [=====] - 0s 56ms/step
      - loss: 0.0220 - accuracy: 1.0000 - val_loss: 0.
      6993 - val_accuracy: 0.8500
2073 Epoch 143/300
2074 1/1 [=====] - 0s 62ms/step
      - loss: 0.0202 - accuracy: 1.0000 - val_loss: 0.
      7012 - val_accuracy: 0.8500
2075 Epoch 144/300
2076 1/1 [=====] - 0s 60ms/step
      - loss: 0.0226 - accuracy: 1.0000 - val_loss: 0.
      7055 - val_accuracy: 0.8500
2077 Epoch 145/300
2078 1/1 [=====] - 0s 68ms/step
      - loss: 0.0190 - accuracy: 1.0000 - val_loss: 0.
      7081 - val_accuracy: 0.8500
2079 Epoch 146/300
2080 1/1 [=====] - 0s 66ms/step
      - loss: 0.0171 - accuracy: 1.0000 - val_loss: 0.
      7114 - val_accuracy: 0.8500
2081 Epoch 147/300
2082 1/1 [=====] - 0s 56ms/step
      - loss: 0.0191 - accuracy: 1.0000 - val_loss: 0.
      7114 - val_accuracy: 0.8500
2083 Epoch 148/300
2084 1/1 [=====] - 0s 64ms/step
      - loss: 0.0187 - accuracy: 1.0000 - val_loss: 0.
      7111 - val_accuracy: 0.8500
2085 Epoch 149/300
2086 1/1 [=====] - 0s 64ms/step
      - loss: 0.0202 - accuracy: 1.0000 - val_loss: 0.
      7091 - val_accuracy: 0.8667
2087 Epoch 150/300
2088 1/1 [=====] - 0s 62ms/step
      - loss: 0.0193 - accuracy: 1.0000 - val_loss: 0.
      7058 - val_accuracy: 0.8667
```

```
2089 Epoch 151/300
2090 1/1 [=====] - 0s 64ms/step
      - loss: 0.0170 - accuracy: 1.0000 - val_loss: 0.
      7036 - val_accuracy: 0.8667
2091 Epoch 152/300
2092 1/1 [=====] - 0s 66ms/step
      - loss: 0.0167 - accuracy: 1.0000 - val_loss: 0.
      7015 - val_accuracy: 0.8667
2093 Epoch 153/300
2094 1/1 [=====] - 0s 61ms/step
      - loss: 0.0196 - accuracy: 1.0000 - val_loss: 0.
      7001 - val_accuracy: 0.8667
2095 Epoch 154/300
2096 1/1 [=====] - 0s 61ms/step
      - loss: 0.0191 - accuracy: 1.0000 - val_loss: 0.
      6996 - val_accuracy: 0.8667
2097 Epoch 155/300
2098 1/1 [=====] - 0s 67ms/step
      - loss: 0.0205 - accuracy: 1.0000 - val_loss: 0.
      7004 - val_accuracy: 0.8500
2099 Epoch 156/300
2100 1/1 [=====] - 0s 67ms/step
      - loss: 0.0187 - accuracy: 1.0000 - val_loss: 0.
      7009 - val_accuracy: 0.8500
2101 Epoch 157/300
2102 1/1 [=====] - 0s 63ms/step
      - loss: 0.0158 - accuracy: 1.0000 - val_loss: 0.
      7006 - val_accuracy: 0.8500
2103 Epoch 158/300
2104 1/1 [=====] - 0s 52ms/step
      - loss: 0.0227 - accuracy: 1.0000 - val_loss: 0.
      7001 - val_accuracy: 0.8500
2105 Epoch 159/300
2106 1/1 [=====] - 0s 65ms/step
      - loss: 0.0181 - accuracy: 1.0000 - val_loss: 0.
      7035 - val_accuracy: 0.8667
2107 Epoch 160/300
2108 1/1 [=====] - 0s 61ms/step
      - loss: 0.0163 - accuracy: 1.0000 - val_loss: 0.
      7092 - val_accuracy: 0.8667
2109 Epoch 161/300
2110 1/1 [=====] - 0s 62ms/step
      - loss: 0.0163 - accuracy: 1.0000 - val_loss: 0.
      7145 - val_accuracy: 0.8667
```

```
2111 Epoch 162/300
2112 1/1 [=====] - 0s 65ms/step
      - loss: 0.0160 - accuracy: 1.0000 - val_loss: 0.
      7177 - val_accuracy: 0.8667
2113 Epoch 163/300
2114 1/1 [=====] - 0s 67ms/step
      - loss: 0.0171 - accuracy: 1.0000 - val_loss: 0.
      7225 - val_accuracy: 0.8500
2115 Epoch 164/300
2116 1/1 [=====] - 0s 61ms/step
      - loss: 0.0128 - accuracy: 1.0000 - val_loss: 0.
      7305 - val_accuracy: 0.8500
2117 Epoch 165/300
2118 1/1 [=====] - 0s 69ms/step
      - loss: 0.0197 - accuracy: 1.0000 - val_loss: 0.
      7369 - val_accuracy: 0.8500
2119 Epoch 166/300
2120 1/1 [=====] - 0s 63ms/step
      - loss: 0.0138 - accuracy: 1.0000 - val_loss: 0.
      7412 - val_accuracy: 0.8500
2121 Epoch 167/300
2122 1/1 [=====] - 0s 69ms/step
      - loss: 0.0178 - accuracy: 1.0000 - val_loss: 0.
      7434 - val_accuracy: 0.8500
2123 Epoch 168/300
2124 1/1 [=====] - 0s 61ms/step
      - loss: 0.0139 - accuracy: 1.0000 - val_loss: 0.
      7436 - val_accuracy: 0.8667
2125 Epoch 169/300
2126 1/1 [=====] - 0s 69ms/step
      - loss: 0.0147 - accuracy: 1.0000 - val_loss: 0.
      7424 - val_accuracy: 0.8667
2127 Epoch 170/300
2128 1/1 [=====] - 0s 51ms/step
      - loss: 0.0127 - accuracy: 1.0000 - val_loss: 0.
      7414 - val_accuracy: 0.8667
2129 Epoch 171/300
2130 1/1 [=====] - 0s 79ms/step
      - loss: 0.0143 - accuracy: 1.0000 - val_loss: 0.
      7369 - val_accuracy: 0.8667
2131 Epoch 172/300
2132 1/1 [=====] - 0s 69ms/step
      - loss: 0.0159 - accuracy: 1.0000 - val_loss: 0.
      7298 - val_accuracy: 0.8667
```

```
2133 Epoch 173/300
2134 1/1 [=====] - 0s 61ms/step
    - loss: 0.0164 - accuracy: 1.0000 - val_loss: 0.
    7241 - val_accuracy: 0.8667
2135 Epoch 174/300
2136 1/1 [=====] - 0s 63ms/step
    - loss: 0.0132 - accuracy: 1.0000 - val_loss: 0.
    7226 - val_accuracy: 0.8500
2137 Epoch 175/300
2138 1/1 [=====] - 0s 63ms/step
    - loss: 0.0157 - accuracy: 1.0000 - val_loss: 0.
    7230 - val_accuracy: 0.8500
2139 Epoch 176/300
2140 1/1 [=====] - 0s 62ms/step
    - loss: 0.0146 - accuracy: 1.0000 - val_loss: 0.
    7237 - val_accuracy: 0.8500
2141 Epoch 177/300
2142 1/1 [=====] - 0s 63ms/step
    - loss: 0.0133 - accuracy: 1.0000 - val_loss: 0.
    7249 - val_accuracy: 0.8500
2143 Epoch 178/300
2144 1/1 [=====] - 0s 62ms/step
    - loss: 0.0143 - accuracy: 1.0000 - val_loss: 0.
    7256 - val_accuracy: 0.8500
2145 Epoch 179/300
2146 1/1 [=====] - 0s 53ms/step
    - loss: 0.0138 - accuracy: 1.0000 - val_loss: 0.
    7255 - val_accuracy: 0.8500
2147 Epoch 180/300
2148 1/1 [=====] - 0s 62ms/step
    - loss: 0.0128 - accuracy: 1.0000 - val_loss: 0.
    7278 - val_accuracy: 0.8500
2149 Epoch 181/300
2150 1/1 [=====] - 0s 65ms/step
    - loss: 0.0121 - accuracy: 1.0000 - val_loss: 0.
    7307 - val_accuracy: 0.8667
2151 Epoch 182/300
2152 1/1 [=====] - 0s 61ms/step
    - loss: 0.0093 - accuracy: 1.0000 - val_loss: 0.
    7331 - val_accuracy: 0.8667
2153 Epoch 183/300
2154 1/1 [=====] - 0s 67ms/step
    - loss: 0.0113 - accuracy: 1.0000 - val_loss: 0.
    7366 - val_accuracy: 0.8667
```

```
2155 Epoch 184/300
2156 1/1 [=====] - 0s 52ms/step
    - loss: 0.0097 - accuracy: 1.0000 - val_loss: 0.
    7390 - val_accuracy: 0.8667
2157 Epoch 185/300
2158 1/1 [=====] - 0s 62ms/step
    - loss: 0.0113 - accuracy: 1.0000 - val_loss: 0.
    7407 - val_accuracy: 0.8667
2159 Epoch 186/300
2160 1/1 [=====] - 0s 62ms/step
    - loss: 0.0103 - accuracy: 1.0000 - val_loss: 0.
    7437 - val_accuracy: 0.8667
2161 Epoch 187/300
2162 1/1 [=====] - 0s 66ms/step
    - loss: 0.0118 - accuracy: 1.0000 - val_loss: 0.
    7461 - val_accuracy: 0.8667
2163 Epoch 188/300
2164 1/1 [=====] - 0s 53ms/step
    - loss: 0.0111 - accuracy: 1.0000 - val_loss: 0.
    7492 - val_accuracy: 0.8667
2165 Epoch 189/300
2166 1/1 [=====] - 0s 63ms/step
    - loss: 0.0112 - accuracy: 1.0000 - val_loss: 0.
    7526 - val_accuracy: 0.8667
2167 Epoch 190/300
2168 1/1 [=====] - 0s 53ms/step
    - loss: 0.0133 - accuracy: 1.0000 - val_loss: 0.
    7553 - val_accuracy: 0.8667
2169 Epoch 191/300
2170 1/1 [=====] - 0s 69ms/step
    - loss: 0.0123 - accuracy: 1.0000 - val_loss: 0.
    7556 - val_accuracy: 0.8667
2171 Epoch 192/300
2172 1/1 [=====] - 0s 64ms/step
    - loss: 0.0112 - accuracy: 1.0000 - val_loss: 0.
    7547 - val_accuracy: 0.8667
2173 Epoch 193/300
2174 1/1 [=====] - 0s 62ms/step
    - loss: 0.0100 - accuracy: 1.0000 - val_loss: 0.
    7530 - val_accuracy: 0.8667
2175 Epoch 194/300
2176 1/1 [=====] - 0s 69ms/step
    - loss: 0.0105 - accuracy: 1.0000 - val_loss: 0.
    7510 - val_accuracy: 0.8667
```

```
2177 Epoch 195/300
2178 1/1 [=====] - 0s 61ms/step
      - loss: 0.0120 - accuracy: 1.0000 - val_loss: 0.
      7492 - val_accuracy: 0.8667
2179 Epoch 196/300
2180 1/1 [=====] - 0s 61ms/step
      - loss: 0.0104 - accuracy: 1.0000 - val_loss: 0.
      7484 - val_accuracy: 0.8667
2181 Epoch 197/300
2182 1/1 [=====] - 0s 67ms/step
      - loss: 0.0111 - accuracy: 1.0000 - val_loss: 0.
      7480 - val_accuracy: 0.8667
2183 Epoch 198/300
2184 1/1 [=====] - 0s 64ms/step
      - loss: 0.0106 - accuracy: 1.0000 - val_loss: 0.
      7491 - val_accuracy: 0.8500
2185 Epoch 199/300
2186 1/1 [=====] - 0s 78ms/step
      - loss: 0.0104 - accuracy: 1.0000 - val_loss: 0.
      7498 - val_accuracy: 0.8500
2187 Epoch 200/300
2188 1/1 [=====] - 0s 61ms/step
      - loss: 0.0124 - accuracy: 1.0000 - val_loss: 0.
      7504 - val_accuracy: 0.8667
2189 Epoch 201/300
2190 1/1 [=====] - 0s 61ms/step
      - loss: 0.0104 - accuracy: 1.0000 - val_loss: 0.
      7517 - val_accuracy: 0.8667
2191 Epoch 202/300
2192 1/1 [=====] - 0s 65ms/step
      - loss: 0.0110 - accuracy: 1.0000 - val_loss: 0.
      7542 - val_accuracy: 0.8667
2193 Epoch 203/300
2194 1/1 [=====] - 0s 61ms/step
      - loss: 0.0102 - accuracy: 1.0000 - val_loss: 0.
      7550 - val_accuracy: 0.8667
2195 Epoch 204/300
2196 1/1 [=====] - 0s 69ms/step
      - loss: 0.0104 - accuracy: 1.0000 - val_loss: 0.
      7537 - val_accuracy: 0.8667
2197 Epoch 205/300
2198 1/1 [=====] - 0s 62ms/step
      - loss: 0.0099 - accuracy: 1.0000 - val_loss: 0.
      7522 - val_accuracy: 0.8667
```

```
2199 Epoch 206/300
2200 1/1 [=====] - 0s 61ms/step
      - loss: 0.0084 - accuracy: 1.0000 - val_loss: 0.
      7523 - val_accuracy: 0.8500
2201 Epoch 207/300
2202 1/1 [=====] - 0s 59ms/step
      - loss: 0.0099 - accuracy: 1.0000 - val_loss: 0.
      7537 - val_accuracy: 0.8500
2203 Epoch 208/300
2204 1/1 [=====] - 0s 62ms/step
      - loss: 0.0095 - accuracy: 1.0000 - val_loss: 0.
      7545 - val_accuracy: 0.8500
2205 Epoch 209/300
2206 1/1 [=====] - 0s 53ms/step
      - loss: 0.0099 - accuracy: 1.0000 - val_loss: 0.
      7567 - val_accuracy: 0.8667
2207 Epoch 210/300
2208 1/1 [=====] - 0s 66ms/step
      - loss: 0.0104 - accuracy: 1.0000 - val_loss: 0.
      7603 - val_accuracy: 0.8667
2209 Epoch 211/300
2210 1/1 [=====] - 0s 69ms/step
      - loss: 0.0092 - accuracy: 1.0000 - val_loss: 0.
      7635 - val_accuracy: 0.8667
2211 Epoch 212/300
2212 1/1 [=====] - 0s 63ms/step
      - loss: 0.0084 - accuracy: 1.0000 - val_loss: 0.
      7662 - val_accuracy: 0.8667
2213 Epoch 213/300
2214 1/1 [=====] - 0s 60ms/step
      - loss: 0.0090 - accuracy: 1.0000 - val_loss: 0.
      7693 - val_accuracy: 0.8667
2215 Epoch 214/300
2216 1/1 [=====] - 0s 53ms/step
      - loss: 0.0087 - accuracy: 1.0000 - val_loss: 0.
      7703 - val_accuracy: 0.8667
2217 Epoch 215/300
2218 1/1 [=====] - 0s 63ms/step
      - loss: 0.0120 - accuracy: 1.0000 - val_loss: 0.
      7685 - val_accuracy: 0.8667
2219 Epoch 216/300
2220 1/1 [=====] - 0s 62ms/step
      - loss: 0.0089 - accuracy: 1.0000 - val_loss: 0.
      7671 - val_accuracy: 0.8667
```

```
2221 Epoch 217/300
2222 1/1 [=====] - 0s 62ms/step
      - loss: 0.0080 - accuracy: 1.0000 - val_loss: 0.
      7670 - val_accuracy: 0.8667
2223 Epoch 218/300
2224 1/1 [=====] - 0s 59ms/step
      - loss: 0.0100 - accuracy: 1.0000 - val_loss: 0.
      7687 - val_accuracy: 0.8500
2225 Epoch 219/300
2226 1/1 [=====] - 0s 62ms/step
      - loss: 0.0104 - accuracy: 1.0000 - val_loss: 0.
      7701 - val_accuracy: 0.8500
2227 Epoch 220/300
2228 1/1 [=====] - 0s 53ms/step
      - loss: 0.0127 - accuracy: 0.9958 - val_loss: 0.
      7734 - val_accuracy: 0.8500
2229 Epoch 221/300
2230 1/1 [=====] - 0s 63ms/step
      - loss: 0.0084 - accuracy: 1.0000 - val_loss: 0.
      7756 - val_accuracy: 0.8333
2231 Epoch 222/300
2232 1/1 [=====] - 0s 66ms/step
      - loss: 0.0103 - accuracy: 1.0000 - val_loss: 0.
      7740 - val_accuracy: 0.8500
2233 Epoch 223/300
2234 1/1 [=====] - 0s 69ms/step
      - loss: 0.0069 - accuracy: 1.0000 - val_loss: 0.
      7732 - val_accuracy: 0.8500
2235 Epoch 224/300
2236 1/1 [=====] - 0s 69ms/step
      - loss: 0.0079 - accuracy: 1.0000 - val_loss: 0.
      7745 - val_accuracy: 0.8500
2237 Epoch 225/300
2238 1/1 [=====] - 0s 63ms/step
      - loss: 0.0090 - accuracy: 1.0000 - val_loss: 0.
      7780 - val_accuracy: 0.8667
2239 Epoch 226/300
2240 1/1 [=====] - 0s 47ms/step
      - loss: 0.0085 - accuracy: 1.0000 - val_loss: 0.
      7839 - val_accuracy: 0.8667
2241 Epoch 227/300
2242 1/1 [=====] - 0s 53ms/step
      - loss: 0.0096 - accuracy: 1.0000 - val_loss: 0.
      7885 - val_accuracy: 0.8667
```

```
2243 Epoch 228/300
2244 1/1 [=====] - 0s 53ms/step
    - loss: 0.0098 - accuracy: 1.0000 - val_loss: 0.
    7867 - val_accuracy: 0.8667
2245 Epoch 229/300
2246 1/1 [=====] - 0s 70ms/step
    - loss: 0.0082 - accuracy: 1.0000 - val_loss: 0.
    7845 - val_accuracy: 0.8667
2247 Epoch 230/300
2248 1/1 [=====] - 0s 52ms/step
    - loss: 0.0083 - accuracy: 1.0000 - val_loss: 0.
    7814 - val_accuracy: 0.8500
2249 Epoch 231/300
2250 1/1 [=====] - 0s 66ms/step
    - loss: 0.0091 - accuracy: 1.0000 - val_loss: 0.
    7806 - val_accuracy: 0.8500
2251 Epoch 232/300
2252 1/1 [=====] - 0s 69ms/step
    - loss: 0.0089 - accuracy: 1.0000 - val_loss: 0.
    7805 - val_accuracy: 0.8500
2253 Epoch 233/300
2254 1/1 [=====] - 0s 63ms/step
    - loss: 0.0105 - accuracy: 1.0000 - val_loss: 0.
    7781 - val_accuracy: 0.8500
2255 Epoch 234/300
2256 1/1 [=====] - 0s 63ms/step
    - loss: 0.0080 - accuracy: 1.0000 - val_loss: 0.
    7766 - val_accuracy: 0.8500
2257 Epoch 235/300
2258 1/1 [=====] - 0s 69ms/step
    - loss: 0.0073 - accuracy: 1.0000 - val_loss: 0.
    7762 - val_accuracy: 0.8500
2259 Epoch 236/300
2260 1/1 [=====] - 0s 60ms/step
    - loss: 0.0072 - accuracy: 1.0000 - val_loss: 0.
    7776 - val_accuracy: 0.8667
2261 Epoch 237/300
2262 1/1 [=====] - 0s 53ms/step
    - loss: 0.0078 - accuracy: 1.0000 - val_loss: 0.
    7803 - val_accuracy: 0.8667
2263 Epoch 238/300
2264 1/1 [=====] - 0s 66ms/step
    - loss: 0.0075 - accuracy: 1.0000 - val_loss: 0.
    7815 - val_accuracy: 0.8667
```

```
2265 Epoch 239/300
2266 1/1 [=====] - 0s 54ms/step
    - loss: 0.0078 - accuracy: 1.0000 - val_loss: 0.
    7826 - val_accuracy: 0.8667
2267 Epoch 240/300
2268 1/1 [=====] - 0s 70ms/step
    - loss: 0.0081 - accuracy: 1.0000 - val_loss: 0.
    7828 - val_accuracy: 0.8667
2269 Epoch 241/300
2270 1/1 [=====] - 0s 62ms/step
    - loss: 0.0078 - accuracy: 1.0000 - val_loss: 0.
    7828 - val_accuracy: 0.8500
2271 Epoch 242/300
2272 1/1 [=====] - 0s 69ms/step
    - loss: 0.0080 - accuracy: 1.0000 - val_loss: 0.
    7824 - val_accuracy: 0.8500
2273 Epoch 243/300
2274 1/1 [=====] - 0s 57ms/step
    - loss: 0.0059 - accuracy: 1.0000 - val_loss: 0.
    7821 - val_accuracy: 0.8500
2275 Epoch 244/300
2276 1/1 [=====] - 0s 52ms/step
    - loss: 0.0080 - accuracy: 1.0000 - val_loss: 0.
    7804 - val_accuracy: 0.8500
2277 Epoch 245/300
2278 1/1 [=====] - 0s 71ms/step
    - loss: 0.0075 - accuracy: 1.0000 - val_loss: 0.
    7788 - val_accuracy: 0.8667
2279 Epoch 246/300
2280 1/1 [=====] - 0s 62ms/step
    - loss: 0.0064 - accuracy: 1.0000 - val_loss: 0.
    7773 - val_accuracy: 0.8667
2281 Epoch 247/300
2282 1/1 [=====] - 0s 69ms/step
    - loss: 0.0066 - accuracy: 1.0000 - val_loss: 0.
    7775 - val_accuracy: 0.8667
2283 Epoch 248/300
2284 1/1 [=====] - 0s 63ms/step
    - loss: 0.0063 - accuracy: 1.0000 - val_loss: 0.
    7783 - val_accuracy: 0.8667
2285 Epoch 249/300
2286 1/1 [=====] - 0s 68ms/step
    - loss: 0.0068 - accuracy: 1.0000 - val_loss: 0.
    7784 - val_accuracy: 0.8667
```

```
2287 Epoch 250/300
2288 1/1 [=====] - 0s 71ms/step
      - loss: 0.0073 - accuracy: 1.0000 - val_loss: 0.
      7799 - val_accuracy: 0.8667
2289 Epoch 251/300
2290 1/1 [=====] - 0s 62ms/step
      - loss: 0.0079 - accuracy: 1.0000 - val_loss: 0.
      7814 - val_accuracy: 0.8667
2291 Epoch 252/300
2292 1/1 [=====] - 0s 69ms/step
      - loss: 0.0065 - accuracy: 1.0000 - val_loss: 0.
      7835 - val_accuracy: 0.8667
2293 Epoch 253/300
2294 1/1 [=====] - 0s 69ms/step
      - loss: 0.0070 - accuracy: 1.0000 - val_loss: 0.
      7856 - val_accuracy: 0.8667
2295 Epoch 254/300
2296 1/1 [=====] - 0s 66ms/step
      - loss: 0.0067 - accuracy: 1.0000 - val_loss: 0.
      7881 - val_accuracy: 0.8667
2297 Epoch 255/300
2298 1/1 [=====] - 0s 69ms/step
      - loss: 0.0066 - accuracy: 1.0000 - val_loss: 0.
      7902 - val_accuracy: 0.8667
2299 Epoch 256/300
2300 1/1 [=====] - 0s 53ms/step
      - loss: 0.0058 - accuracy: 1.0000 - val_loss: 0.
      7925 - val_accuracy: 0.8667
2301 Epoch 257/300
2302 1/1 [=====] - 0s 53ms/step
      - loss: 0.0071 - accuracy: 1.0000 - val_loss: 0.
      7952 - val_accuracy: 0.8667
2303 Epoch 258/300
2304 1/1 [=====] - 0s 59ms/step
      - loss: 0.0075 - accuracy: 1.0000 - val_loss: 0.
      7980 - val_accuracy: 0.8667
2305 Epoch 259/300
2306 1/1 [=====] - 0s 61ms/step
      - loss: 0.0066 - accuracy: 1.0000 - val_loss: 0.
      8015 - val_accuracy: 0.8667
2307 Epoch 260/300
2308 1/1 [=====] - 0s 69ms/step
      - loss: 0.0056 - accuracy: 1.0000 - val_loss: 0.
      8045 - val_accuracy: 0.8667
```

```
2309 Epoch 261/300
2310 1/1 [=====] - 0s 62ms/step
      - loss: 0.0065 - accuracy: 1.0000 - val_loss: 0.
      8062 - val_accuracy: 0.8667
2311 Epoch 262/300
2312 1/1 [=====] - 0s 61ms/step
      - loss: 0.0057 - accuracy: 1.0000 - val_loss: 0.
      8067 - val_accuracy: 0.8500
2313 Epoch 263/300
2314 1/1 [=====] - 0s 52ms/step
      - loss: 0.0060 - accuracy: 1.0000 - val_loss: 0.
      8078 - val_accuracy: 0.8500
2315 Epoch 264/300
2316 1/1 [=====] - 0s 69ms/step
      - loss: 0.0063 - accuracy: 1.0000 - val_loss: 0.
      8084 - val_accuracy: 0.8500
2317 Epoch 265/300
2318 1/1 [=====] - 0s 76ms/step
      - loss: 0.0053 - accuracy: 1.0000 - val_loss: 0.
      8098 - val_accuracy: 0.8500
2319 Epoch 266/300
2320 1/1 [=====] - 0s 65ms/step
      - loss: 0.0081 - accuracy: 1.0000 - val_loss: 0.
      8100 - val_accuracy: 0.8500
2321 Epoch 267/300
2322 1/1 [=====] - 0s 62ms/step
      - loss: 0.0057 - accuracy: 1.0000 - val_loss: 0.
      8108 - val_accuracy: 0.8500
2323 Epoch 268/300
2324 1/1 [=====] - 0s 62ms/step
      - loss: 0.0078 - accuracy: 1.0000 - val_loss: 0.
      8120 - val_accuracy: 0.8500
2325 Epoch 269/300
2326 1/1 [=====] - 0s 71ms/step
      - loss: 0.0055 - accuracy: 1.0000 - val_loss: 0.
      8121 - val_accuracy: 0.8500
2327 Epoch 270/300
2328 1/1 [=====] - 0s 62ms/step
      - loss: 0.0065 - accuracy: 1.0000 - val_loss: 0.
      8118 - val_accuracy: 0.8500
2329 Epoch 271/300
2330 1/1 [=====] - 0s 65ms/step
      - loss: 0.0061 - accuracy: 1.0000 - val_loss: 0.
      8135 - val_accuracy: 0.8500
```

```
2331 Epoch 272/300
2332 1/1 [=====] - 0s 52ms/step
      - loss: 0.0068 - accuracy: 1.0000 - val_loss: 0.
      8141 - val_accuracy: 0.8500
2333 Epoch 273/300
2334 1/1 [=====] - 0s 70ms/step
      - loss: 0.0053 - accuracy: 1.0000 - val_loss: 0.
      8140 - val_accuracy: 0.8500
2335 Epoch 274/300
2336 1/1 [=====] - 0s 69ms/step
      - loss: 0.0055 - accuracy: 1.0000 - val_loss: 0.
      8143 - val_accuracy: 0.8500
2337 Epoch 275/300
2338 1/1 [=====] - 0s 60ms/step
      - loss: 0.0051 - accuracy: 1.0000 - val_loss: 0.
      8148 - val_accuracy: 0.8500
2339 Epoch 276/300
2340 1/1 [=====] - 0s 71ms/step
      - loss: 0.0062 - accuracy: 1.0000 - val_loss: 0.
      8151 - val_accuracy: 0.8500
2341 Epoch 277/300
2342 1/1 [=====] - 0s 67ms/step
      - loss: 0.0045 - accuracy: 1.0000 - val_loss: 0.
      8158 - val_accuracy: 0.8500
2343 Epoch 278/300
2344 1/1 [=====] - 0s 69ms/step
      - loss: 0.0061 - accuracy: 1.0000 - val_loss: 0.
      8163 - val_accuracy: 0.8500
2345 Epoch 279/300
2346 1/1 [=====] - 0s 60ms/step
      - loss: 0.0040 - accuracy: 1.0000 - val_loss: 0.
      8166 - val_accuracy: 0.8500
2347 Epoch 280/300
2348 1/1 [=====] - 0s 61ms/step
      - loss: 0.0045 - accuracy: 1.0000 - val_loss: 0.
      8173 - val_accuracy: 0.8500
2349 Epoch 281/300
2350 1/1 [=====] - 0s 62ms/step
      - loss: 0.0058 - accuracy: 1.0000 - val_loss: 0.
      8187 - val_accuracy: 0.8500
2351 Epoch 282/300
2352 1/1 [=====] - 0s 66ms/step
      - loss: 0.0041 - accuracy: 1.0000 - val_loss: 0.
      8201 - val_accuracy: 0.8500
```

```
2353 Epoch 283/300
2354 1/1 [=====] - 0s 69ms/step
      - loss: 0.0053 - accuracy: 1.0000 - val_loss: 0.
      8210 - val_accuracy: 0.8500
2355 Epoch 284/300
2356 1/1 [=====] - 0s 69ms/step
      - loss: 0.0051 - accuracy: 1.0000 - val_loss: 0.
      8210 - val_accuracy: 0.8500
2357 Epoch 285/300
2358 1/1 [=====] - 0s 69ms/step
      - loss: 0.0049 - accuracy: 1.0000 - val_loss: 0.
      8206 - val_accuracy: 0.8500
2359 Epoch 286/300
2360 1/1 [=====] - 0s 62ms/step
      - loss: 0.0056 - accuracy: 1.0000 - val_loss: 0.
      8194 - val_accuracy: 0.8500
2361 Epoch 287/300
2362 1/1 [=====] - 0s 67ms/step
      - loss: 0.0052 - accuracy: 1.0000 - val_loss: 0.
      8174 - val_accuracy: 0.8500
2363 Epoch 288/300
2364 1/1 [=====] - 0s 47ms/step
      - loss: 0.0046 - accuracy: 1.0000 - val_loss: 0.
      8157 - val_accuracy: 0.8667
2365 Epoch 289/300
2366 1/1 [=====] - 0s 69ms/step
      - loss: 0.0073 - accuracy: 0.9958 - val_loss: 0.
      8101 - val_accuracy: 0.8667
2367 Epoch 290/300
2368 1/1 [=====] - 0s 62ms/step
      - loss: 0.0052 - accuracy: 1.0000 - val_loss: 0.
      8064 - val_accuracy: 0.8500
2369 Epoch 291/300
2370 1/1 [=====] - 0s 69ms/step
      - loss: 0.0057 - accuracy: 1.0000 - val_loss: 0.
      8034 - val_accuracy: 0.8667
2371 Epoch 292/300
2372 1/1 [=====] - 0s 62ms/step
      - loss: 0.0046 - accuracy: 1.0000 - val_loss: 0.
      8001 - val_accuracy: 0.8667
2373 Epoch 293/300
2374 1/1 [=====] - 0s 61ms/step
      - loss: 0.0055 - accuracy: 1.0000 - val_loss: 0.
      7971 - val_accuracy: 0.8667
```

```
2375 Epoch 294/300
2376 1/1 [=====] - 0s 64ms/step
    - loss: 0.0048 - accuracy: 1.0000 - val_loss: 0.
    7958 - val_accuracy: 0.8500
2377 Epoch 295/300
2378 1/1 [=====] - 0s 55ms/step
    - loss: 0.0059 - accuracy: 1.0000 - val_loss: 0.
    7952 - val_accuracy: 0.8667
2379 Epoch 296/300
2380 1/1 [=====] - 0s 64ms/step
    - loss: 0.0048 - accuracy: 1.0000 - val_loss: 0.
    7958 - val_accuracy: 0.8667
2381 Epoch 297/300
2382 1/1 [=====] - 0s 63ms/step
    - loss: 0.0062 - accuracy: 1.0000 - val_loss: 0.
    7996 - val_accuracy: 0.8667
2383 Epoch 298/300
2384 1/1 [=====] - 0s 69ms/step
    - loss: 0.0041 - accuracy: 1.0000 - val_loss: 0.
    8046 - val_accuracy: 0.8667
2385 Epoch 299/300
2386 1/1 [=====] - 0s 67ms/step
    - loss: 0.0050 - accuracy: 1.0000 - val_loss: 0.
    8100 - val_accuracy: 0.8667
2387 Epoch 300/300
2388 1/1 [=====] - 0s 56ms/step
    - loss: 0.0050 - accuracy: 1.0000 - val_loss: 0.
    8145 - val_accuracy: 0.8500
2389
2390 Duration of training
2391 --- 237.55798864364624 seconds ---
2392
2393 Predicting...
2394 2/2 [=====] - 0s 11ms/step
    - loss: 0.8145 - accuracy: 0.8500
2395 score = [0.814484715461731, 0.8500000238418579]
2396
2397 Duration of prediction
2398 --- 0.10025763511657715 seconds ---
2399
2400 --- Comparison of actual vs predicted ---
2401 WARNING:tensorflow:6 out of the last 11 calls to <
function Model.make_predict_function.<locals>.
predict_function at 0x0000027A445F3C10> triggered
```

2401 tf.function retracing. Tracing is expensive and the excessive number of tracings could be due to (1) creating @tf.function repeatedly in a loop, (2) passing tensors with different shapes, (3) passing Python objects instead of tensors. For (1), please define your @tf.function outside of the loop. For (2), @tf.function has experimental_relax_shapes=True option that relaxes argument shapes that can avoid unnecessary retracing. For (3), please refer to https://www.tensorflow.org/tutorials/customization/performance#python_or_tensor_args and https://www.tensorflow.org/api_docs/python/tf/function for more details.

2402 Actual: Apple Predicted: Apple
2403 Actual: Apple Predicted: Apple
2404 Actual: Apple Predicted: Apple
2405 Actual: Apple Predicted: Apple
2406 Actual: Apple Predicted: Apple
2407 Actual: Apple Predicted: Apple
2408 Actual: Apple Predicted: Apple
2409 Actual: Apple Predicted: Apple
2410 Actual: Apple Predicted: Apple
2411 Actual: Apple Predicted: Banana
2412 Actual: Apple Predicted: Apple
2413 Actual: Apple Predicted: Apple
2414 Actual: Apple Predicted: Apple
2415 Actual: Apple Predicted: Apple
2416 Actual: Apple Predicted: Apple
2417 Actual: Apple Predicted: Apple
2418 Actual: Apple Predicted: Apple
2419 Actual: Apple Predicted: Apple
2420 Actual: Apple Predicted: Apple
2421 Actual: Banana Predicted: Banana
2422 Actual: Banana Predicted: Banana
2423 Actual: Banana Predicted: Banana
2424 Actual: Banana Predicted: Banana
2425 Actual: Banana Predicted: Banana
2426 Actual: Banana Predicted: Banana
2427 Actual: Banana Predicted: Banana
2428 Actual: Banana Predicted: Banana
2429 Actual: Banana Predicted: Banana
2430 Actual: Banana Predicted: Orange
2431 Actual: Banana Predicted: Banana
2432 Actual: Banana Predicted: Apple

```
2433 Actual: Banana Predicted: Banana
2434 Actual: Banana Predicted: Banana
2435 Actual: Banana Predicted: Banana
2436 Actual: Banana Predicted: Banana
2437 Actual: Banana Predicted: Banana
2438 Actual: Banana Predicted: Banana
2439 Actual: Mixed Fruits Predicted: Orange
2440 Actual: Mixed Fruits Predicted: Banana
2441 Actual: Mixed Fruits Predicted: Apple
2442 Actual: Mixed Fruits Predicted: Banana
2443 Actual: Mixed Fruits Predicted: Apple
2444 Actual: Orange Predicted: Orange
2445 Actual: Orange Predicted: Orange
2446 Actual: Orange Predicted: Orange
2447 Actual: Orange Predicted: Orange
2448 Actual: Orange Predicted: Orange
2449 Actual: Orange Predicted: Orange
2450 Actual: Orange Predicted: Orange
2451 Actual: Orange Predicted: Orange
2452 Actual: Orange Predicted: Orange
2453 Actual: Orange Predicted: Orange
2454 Actual: Orange Predicted: Orange
2455 Actual: Orange Predicted: Orange
2456 Actual: Orange Predicted: Banana
2457 Actual: Orange Predicted: Orange
2458 Actual: Orange Predicted: Orange
2459 Actual: Orange Predicted: Orange
2460 Actual: Orange Predicted: Orange
2461 Actual: Orange Predicted: Orange
2462 Epoch 1/100
2463 1/1 [=====] - 0s 184ms/
    step - loss: 1.3805 - accuracy: 0.2708 - val_loss:
    2.1613 - val_accuracy: 0.3167
2464 Epoch 2/100
2465 1/1 [=====] - 0s 69ms/step
    - loss: 2.1009 - accuracy: 0.3500 - val_loss: 2.
    8293 - val_accuracy: 0.5167
2466 Epoch 3/100
2467 1/1 [=====] - 0s 66ms/step
    - loss: 2.8523 - accuracy: 0.4458 - val_loss: 2.
    5148 - val_accuracy: 0.3500
2468 Epoch 4/100
2469 1/1 [=====] - 0s 62ms/step
    - loss: 2.5719 - accuracy: 0.3875 - val_loss: 1.
```

```
2469 4797 - val_accuracy: 0.4000
2470 Epoch 5/100
2471 1/1 [=====] - 0s 62ms/step
    - loss: 1.4449 - accuracy: 0.4500 - val_loss: 0.
    9518 - val_accuracy: 0.8167
2472 Epoch 6/100
2473 1/1 [=====] - 0s 71ms/step
    - loss: 0.9083 - accuracy: 0.7167 - val_loss: 1.
    1130 - val_accuracy: 0.4500
2474 Epoch 7/100
2475 1/1 [=====] - 0s 69ms/step
    - loss: 1.0329 - accuracy: 0.5125 - val_loss: 1.
    2133 - val_accuracy: 0.3167
2476 Epoch 8/100
2477 1/1 [=====] - 0s 74ms/step
    - loss: 1.1152 - accuracy: 0.3958 - val_loss: 1.
    1514 - val_accuracy: 0.3500
2478 Epoch 9/100
2479 1/1 [=====] - 0s 69ms/step
    - loss: 1.0420 - accuracy: 0.4792 - val_loss: 1.
    0388 - val_accuracy: 0.5167
2480 Epoch 10/100
2481 1/1 [=====] - 0s 69ms/step
    - loss: 0.9228 - accuracy: 0.6292 - val_loss: 0.
    9470 - val_accuracy: 0.7167
2482 Epoch 11/100
2483 1/1 [=====] - 0s 61ms/step
    - loss: 0.8064 - accuracy: 0.7750 - val_loss: 0.
    8821 - val_accuracy: 0.7333
2484 Epoch 12/100
2485 1/1 [=====] - 0s 80ms/step
    - loss: 0.7172 - accuracy: 0.7917 - val_loss: 0.
    8473 - val_accuracy: 0.7833
2486 Epoch 13/100
2487 1/1 [=====] - 0s 78ms/step
    - loss: 0.6549 - accuracy: 0.8000 - val_loss: 0.
    8572 - val_accuracy: 0.7333
2488 Epoch 14/100
2489 1/1 [=====] - 0s 71ms/step
    - loss: 0.6103 - accuracy: 0.8250 - val_loss: 0.
    8560 - val_accuracy: 0.7167
2490 Epoch 15/100
2491 1/1 [=====] - 0s 69ms/step
    - loss: 0.5612 - accuracy: 0.8333 - val_loss: 0.
```

```
2491 8067 - val_accuracy: 0.7500
2492 Epoch 16/100
2493 1/1 [=====] - 0s 69ms/step
    - loss: 0.4765 - accuracy: 0.8542 - val_loss: 0.
    7542 - val_accuracy: 0.7833
2494 Epoch 17/100
2495 1/1 [=====] - 0s 69ms/step
    - loss: 0.4368 - accuracy: 0.8708 - val_loss: 0.
    7197 - val_accuracy: 0.7833
2496 Epoch 18/100
2497 1/1 [=====] - 0s 81ms/step
    - loss: 0.4202 - accuracy: 0.8833 - val_loss: 0.
    6821 - val_accuracy: 0.8000
2498 Epoch 19/100
2499 1/1 [=====] - 0s 62ms/step
    - loss: 0.3508 - accuracy: 0.8917 - val_loss: 0.
    6627 - val_accuracy: 0.8167
2500 Epoch 20/100
2501 1/1 [=====] - 0s 94ms/step
    - loss: 0.2952 - accuracy: 0.9125 - val_loss: 0.
    6795 - val_accuracy: 0.8000
2502 Epoch 21/100
2503 1/1 [=====] - 0s 69ms/step
    - loss: 0.2606 - accuracy: 0.9292 - val_loss: 0.
    6782 - val_accuracy: 0.8167
2504 Epoch 22/100
2505 1/1 [=====] - 0s 59ms/step
    - loss: 0.2247 - accuracy: 0.9458 - val_loss: 0.
    6449 - val_accuracy: 0.8500
2506 Epoch 23/100
2507 1/1 [=====] - 0s 69ms/step
    - loss: 0.1802 - accuracy: 0.9500 - val_loss: 0.
    6447 - val_accuracy: 0.8667
2508 Epoch 24/100
2509 1/1 [=====] - 0s 69ms/step
    - loss: 0.1907 - accuracy: 0.9375 - val_loss: 0.
    6416 - val_accuracy: 0.8667
2510 Epoch 25/100
2511 1/1 [=====] - 0s 78ms/step
    - loss: 0.1940 - accuracy: 0.9375 - val_loss: 0.
    6714 - val_accuracy: 0.8833
2512 Epoch 26/100
2513 1/1 [=====] - 0s 69ms/step
    - loss: 0.1403 - accuracy: 0.9542 - val_loss: 0.
```

```
2513 7430 - val_accuracy: 0.8667
2514 Epoch 27/100
2515 1/1 [=====] - 0s 69ms/step
    - loss: 0.1421 - accuracy: 0.9667 - val_loss: 0.
    8058 - val_accuracy: 0.8667
2516 Epoch 28/100
2517 1/1 [=====] - 0s 62ms/step
    - loss: 0.1139 - accuracy: 0.9500 - val_loss: 0.
    8007 - val_accuracy: 0.8667
2518 Epoch 29/100
2519 1/1 [=====] - 0s 85ms/step
    - loss: 0.0740 - accuracy: 0.9750 - val_loss: 0.
    8010 - val_accuracy: 0.8833
2520 Epoch 30/100
2521 1/1 [=====] - 0s 59ms/step
    - loss: 0.0708 - accuracy: 0.9792 - val_loss: 0.
    8144 - val_accuracy: 0.8667
2522 Epoch 31/100
2523 1/1 [=====] - 0s 67ms/step
    - loss: 0.0913 - accuracy: 0.9583 - val_loss: 0.
    8249 - val_accuracy: 0.8667
2524 Epoch 32/100
2525 1/1 [=====] - 0s 69ms/step
    - loss: 0.0731 - accuracy: 0.9792 - val_loss: 0.
    8401 - val_accuracy: 0.8667
2526 Epoch 33/100
2527 1/1 [=====] - 0s 76ms/step
    - loss: 0.0654 - accuracy: 0.9792 - val_loss: 0.
    8562 - val_accuracy: 0.8667
2528 Epoch 34/100
2529 1/1 [=====] - 0s 71ms/step
    - loss: 0.0504 - accuracy: 0.9917 - val_loss: 0.
    8838 - val_accuracy: 0.8667
2530 Epoch 35/100
2531 1/1 [=====] - 0s 75ms/step
    - loss: 0.0528 - accuracy: 0.9917 - val_loss: 0.
    8821 - val_accuracy: 0.8833
2532 Epoch 36/100
2533 1/1 [=====] - 0s 69ms/step
    - loss: 0.0474 - accuracy: 0.9917 - val_loss: 0.
    9235 - val_accuracy: 0.8833
2534 Epoch 37/100
2535 1/1 [=====] - 0s 81ms/step
    - loss: 0.0504 - accuracy: 0.9917 - val_loss: 0.
```

```
2535 8525 - val_accuracy: 0.9000
2536 Epoch 38/100
2537 1/1 [=====] - 0s 77ms/step
    - loss: 0.0379 - accuracy: 0.9958 - val_loss: 0.
    8232 - val_accuracy: 0.8833
2538 Epoch 39/100
2539 1/1 [=====] - 0s 69ms/step
    - loss: 0.0246 - accuracy: 0.9958 - val_loss: 0.
    8162 - val_accuracy: 0.8833
2540 Epoch 40/100
2541 1/1 [=====] - 0s 69ms/step
    - loss: 0.0215 - accuracy: 1.0000 - val_loss: 0.
    8198 - val_accuracy: 0.8667
2542 Epoch 41/100
2543 1/1 [=====] - 0s 70ms/step
    - loss: 0.0245 - accuracy: 0.9958 - val_loss: 0.
    8501 - val_accuracy: 0.8833
2544 Epoch 42/100
2545 1/1 [=====] - 0s 69ms/step
    - loss: 0.0253 - accuracy: 0.9958 - val_loss: 0.
    9352 - val_accuracy: 0.9000
2546 Epoch 43/100
2547 1/1 [=====] - 0s 73ms/step
    - loss: 0.0244 - accuracy: 0.9958 - val_loss: 0.
    9441 - val_accuracy: 0.9000
2548 Epoch 44/100
2549 1/1 [=====] - 0s 85ms/step
    - loss: 0.0129 - accuracy: 1.0000 - val_loss: 0.
    9377 - val_accuracy: 0.8833
2550 Epoch 45/100
2551 1/1 [=====] - 0s 71ms/step
    - loss: 0.0105 - accuracy: 1.0000 - val_loss: 0.
    9639 - val_accuracy: 0.8667
2552 Epoch 46/100
2553 1/1 [=====] - 0s 69ms/step
    - loss: 0.0156 - accuracy: 1.0000 - val_loss: 0.
    9842 - val_accuracy: 0.8667
2554 Epoch 47/100
2555 1/1 [=====] - 0s 69ms/step
    - loss: 0.0137 - accuracy: 1.0000 - val_loss: 0.
    9917 - val_accuracy: 0.8667
2556 Epoch 48/100
2557 1/1 [=====] - 0s 62ms/step
    - loss: 0.0132 - accuracy: 1.0000 - val_loss: 1.
```

```
2557 0088 - val_accuracy: 0.8833
2558 Epoch 49/100
2559 1/1 [=====] - 0s 69ms/step
    - loss: 0.0133 - accuracy: 0.9958 - val_loss: 1.
    0159 - val_accuracy: 0.8833
2560 Epoch 50/100
2561 1/1 [=====] - 0s 69ms/step
    - loss: 0.0129 - accuracy: 1.0000 - val_loss: 1.
    0208 - val_accuracy: 0.8833
2562 Epoch 51/100
2563 1/1 [=====] - 0s 62ms/step
    - loss: 0.0120 - accuracy: 1.0000 - val_loss: 1.
    0092 - val_accuracy: 0.8833
2564 Epoch 52/100
2565 1/1 [=====] - 0s 85ms/step
    - loss: 0.0081 - accuracy: 1.0000 - val_loss: 0.
    9947 - val_accuracy: 0.8833
2566 Epoch 53/100
2567 1/1 [=====] - 0s 77ms/step
    - loss: 0.0069 - accuracy: 1.0000 - val_loss: 0.
    9951 - val_accuracy: 0.8833
2568 Epoch 54/100
2569 1/1 [=====] - 0s 69ms/step
    - loss: 0.0076 - accuracy: 1.0000 - val_loss: 1.
    0110 - val_accuracy: 0.8833
2570 Epoch 55/100
2571 1/1 [=====] - 0s 100ms/
    step - loss: 0.0099 - accuracy: 0.9958 - val_loss:
    1.0314 - val_accuracy: 0.8667
2572 Epoch 56/100
2573 1/1 [=====] - 0s 69ms/step
    - loss: 0.0048 - accuracy: 1.0000 - val_loss: 1.
    0473 - val_accuracy: 0.8667
2574 Epoch 57/100
2575 1/1 [=====] - 0s 64ms/step
    - loss: 0.0054 - accuracy: 1.0000 - val_loss: 1.
    0480 - val_accuracy: 0.8833
2576 Epoch 58/100
2577 1/1 [=====] - 0s 78ms/step
    - loss: 0.0027 - accuracy: 1.0000 - val_loss: 1.
    0504 - val_accuracy: 0.8833
2578 Epoch 59/100
2579 1/1 [=====] - 0s 74ms/step
    - loss: 0.0053 - accuracy: 1.0000 - val_loss: 1.
```

```
2579 0427 - val_accuracy: 0.8833
2580 Epoch 60/100
2581 1/1 [=====] - 0s 69ms/step
    - loss: 0.0052 - accuracy: 1.0000 - val_loss: 1.
    0445 - val_accuracy: 0.8833
2582 Epoch 61/100
2583 1/1 [=====] - 0s 69ms/step
    - loss: 0.0050 - accuracy: 1.0000 - val_loss: 1.
    0586 - val_accuracy: 0.8833
2584 Epoch 62/100
2585 1/1 [=====] - 0s 60ms/step
    - loss: 0.0062 - accuracy: 1.0000 - val_loss: 1.
    0373 - val_accuracy: 0.8833
2586 Epoch 63/100
2587 1/1 [=====] - 0s 85ms/step
    - loss: 0.0044 - accuracy: 1.0000 - val_loss: 1.
    0233 - val_accuracy: 0.8833
2588 Epoch 64/100
2589 1/1 [=====] - 0s 72ms/step
    - loss: 0.0040 - accuracy: 1.0000 - val_loss: 1.
    0030 - val_accuracy: 0.9000
2590 Epoch 65/100
2591 1/1 [=====] - 0s 69ms/step
    - loss: 0.0033 - accuracy: 1.0000 - val_loss: 0.
    9927 - val_accuracy: 0.8833
2592 Epoch 66/100
2593 1/1 [=====] - 0s 69ms/step
    - loss: 0.0031 - accuracy: 1.0000 - val_loss: 0.
    9879 - val_accuracy: 0.8833
2594 Epoch 67/100
2595 1/1 [=====] - 0s 85ms/step
    - loss: 0.0031 - accuracy: 1.0000 - val_loss: 0.
    9876 - val_accuracy: 0.8833
2596 Epoch 68/100
2597 1/1 [=====] - 0s 69ms/step
    - loss: 0.0015 - accuracy: 1.0000 - val_loss: 0.
    9910 - val_accuracy: 0.8833
2598 Epoch 69/100
2599 1/1 [=====] - 0s 69ms/step
    - loss: 0.0047 - accuracy: 1.0000 - val_loss: 1.
    0055 - val_accuracy: 0.8833
2600 Epoch 70/100
2601 1/1 [=====] - 0s 85ms/step
    - loss: 0.0033 - accuracy: 1.0000 - val_loss: 1.
```

```
2601 0271 - val_accuracy: 0.8833
2602 Epoch 71/100
2603 1/1 [=====] - 0s 85ms/step
    - loss: 0.0021 - accuracy: 1.0000 - val_loss: 1.
    0523 - val_accuracy: 0.8833
2604 Epoch 72/100
2605 1/1 [=====] - 0s 84ms/step
    - loss: 0.0017 - accuracy: 1.0000 - val_loss: 1.
    0835 - val_accuracy: 0.8833
2606 Epoch 73/100
2607 1/1 [=====] - 0s 73ms/step
    - loss: 0.0019 - accuracy: 1.0000 - val_loss: 1.
    1193 - val_accuracy: 0.8833
2608 Epoch 74/100
2609 1/1 [=====] - 0s 62ms/step
    - loss: 0.0020 - accuracy: 1.0000 - val_loss: 1.
    1449 - val_accuracy: 0.8833
2610 Epoch 75/100
2611 1/1 [=====] - 0s 85ms/step
    - loss: 0.0018 - accuracy: 1.0000 - val_loss: 1.
    1667 - val_accuracy: 0.8667
2612 Epoch 76/100
2613 1/1 [=====] - 0s 62ms/step
    - loss: 0.0017 - accuracy: 1.0000 - val_loss: 1.
    1875 - val_accuracy: 0.8667
2614 Epoch 77/100
2615 1/1 [=====] - 0s 85ms/step
    - loss: 0.0027 - accuracy: 1.0000 - val_loss: 1.
    1924 - val_accuracy: 0.8667
2616 Epoch 78/100
2617 1/1 [=====] - 0s 72ms/step
    - loss: 0.0017 - accuracy: 1.0000 - val_loss: 1.
    1968 - val_accuracy: 0.8667
2618 Epoch 79/100
2619 1/1 [=====] - 0s 85ms/step
    - loss: 0.0015 - accuracy: 1.0000 - val_loss: 1.
    1990 - val_accuracy: 0.8667
2620 Epoch 80/100
2621 1/1 [=====] - 0s 71ms/step
    - loss: 0.0011 - accuracy: 1.0000 - val_loss: 1.
    1983 - val_accuracy: 0.8667
2622 Epoch 81/100
2623 1/1 [=====] - 0s 69ms/step
    - loss: 0.0038 - accuracy: 1.0000 - val_loss: 1.
```

```
2623 1917 - val_accuracy: 0.8833
2624 Epoch 82/100
2625 1/1 [=====] - 0s 85ms/step
    - loss: 0.0015 - accuracy: 1.0000 - val_loss: 1.
    1889 - val_accuracy: 0.8833
2626 Epoch 83/100
2627 1/1 [=====] - 0s 69ms/step
    - loss: 0.0018 - accuracy: 1.0000 - val_loss: 1.
    1868 - val_accuracy: 0.8833
2628 Epoch 84/100
2629 1/1 [=====] - 0s 74ms/step
    - loss: 0.0024 - accuracy: 1.0000 - val_loss: 1.
    1983 - val_accuracy: 0.8833
2630 Epoch 85/100
2631 1/1 [=====] - 0s 78ms/step
    - loss: 8.1524e-04 - accuracy: 1.0000 - val_loss:
    1.2090 - val_accuracy: 0.8833
2632 Epoch 86/100
2633 1/1 [=====] - 0s 69ms/step
    - loss: 0.0013 - accuracy: 1.0000 - val_loss: 1.
    2180 - val_accuracy: 0.8833
2634 Epoch 87/100
2635 1/1 [=====] - 0s 72ms/step
    - loss: 0.0016 - accuracy: 1.0000 - val_loss: 1.
    2207 - val_accuracy: 0.8833
2636 Epoch 88/100
2637 1/1 [=====] - 0s 85ms/step
    - loss: 0.0011 - accuracy: 1.0000 - val_loss: 1.
    2189 - val_accuracy: 0.8833
2638 Epoch 89/100
2639 1/1 [=====] - 0s 62ms/step
    - loss: 0.0013 - accuracy: 1.0000 - val_loss: 1.
    2173 - val_accuracy: 0.8833
2640 Epoch 90/100
2641 1/1 [=====] - 0s 83ms/step
    - loss: 0.0017 - accuracy: 1.0000 - val_loss: 1.
    2176 - val_accuracy: 0.8833
2642 Epoch 91/100
2643 1/1 [=====] - 0s 81ms/step
    - loss: 0.0011 - accuracy: 1.0000 - val_loss: 1.
    2189 - val_accuracy: 0.8667
2644 Epoch 92/100
2645 1/1 [=====] - 0s 85ms/step
    - loss: 0.0018 - accuracy: 1.0000 - val_loss: 1.
```

```
2645 2369 - val_accuracy: 0.8667
2646 Epoch 93/100
2647 1/1 [=====] - 0s 78ms/step
    - loss: 0.0020 - accuracy: 1.0000 - val_loss: 1.
    2578 - val_accuracy: 0.8667
2648 Epoch 94/100
2649 1/1 [=====] - 0s 79ms/step
    - loss: 0.0013 - accuracy: 1.0000 - val_loss: 1.
    2810 - val_accuracy: 0.8667
2650 Epoch 95/100
2651 1/1 [=====] - 0s 85ms/step
    - loss: 9.1239e-04 - accuracy: 1.0000 - val_loss:
    1.3050 - val_accuracy: 0.8667
2652 Epoch 96/100
2653 1/1 [=====] - 0s 78ms/step
    - loss: 0.0012 - accuracy: 1.0000 - val_loss: 1.
    3263 - val_accuracy: 0.8667
2654 Epoch 97/100
2655 1/1 [=====] - 0s 82ms/step
    - loss: 7.8978e-04 - accuracy: 1.0000 - val_loss:
    1.3475 - val_accuracy: 0.8667
2656 Epoch 98/100
2657 1/1 [=====] - 0s 85ms/step
    - loss: 0.0011 - accuracy: 1.0000 - val_loss: 1.
    3646 - val_accuracy: 0.8667
2658 Epoch 99/100
2659 1/1 [=====] - 0s 82ms/step
    - loss: 9.6601e-04 - accuracy: 1.0000 - val_loss:
    1.3799 - val_accuracy: 0.8667
2660 Epoch 100/100
2661 1/1 [=====] - 0s 69ms/step
    - loss: 0.0016 - accuracy: 1.0000 - val_loss: 1.
    3700 - val_accuracy: 0.8667
2662
2663 Duration of training
2664 --- 138.42809176445007 seconds ---
2665
2666 Predicting...
2667 2/2 [=====] - 0s 19ms/step
    - loss: 1.3700 - accuracy: 0.8667
2668 score = [1.3699814081192017, 0.8666666746139526]
2669
2670 Duration of prediction
2671 --- 0.11587738990783691 seconds ---
```

```
2672
2673 --- Comparison of actual vs predicted ---
2674 WARNING:tensorflow:6 out of the last 11 calls to <
function Model.make_predict_function.<locals>.
predict_function at 0x0000027A44711A60> triggered
tf.function retracing. Tracing is expensive and the
excessive number of tracings could be due to (1)
creating @tf.function repeatedly in a loop, (2)
passing tensors with different shapes, (3) passing
Python objects instead of tensors. For (1), please
define your @tf.function outside of the loop. For (2),
@tf.function has experimental_relax_shapes=True
option that relaxes argument shapes that can avoid
unnecessary retracing. For (3), please refer to
https://www.tensorflow.org/tutorials/customization/performance#python\_or\_tensor\_args and https://www.tensorflow.org/api\_docs/python/tf/function for
more details.
2675 Actual: Apple Predicted: Apple
2676 Actual: Apple Predicted: Apple
2677 Actual: Apple Predicted: Apple
2678 Actual: Apple Predicted: Apple
2679 Actual: Apple Predicted: Apple
2680 Actual: Apple Predicted: Apple
2681 Actual: Apple Predicted: Apple
2682 Actual: Apple Predicted: Apple
2683 Actual: Apple Predicted: Apple
2684 Actual: Apple Predicted: Apple
2685 Actual: Apple Predicted: Apple
2686 Actual: Apple Predicted: Apple
2687 Actual: Apple Predicted: Apple
2688 Actual: Apple Predicted: Apple
2689 Actual: Apple Predicted: Apple
2690 Actual: Apple Predicted: Apple
2691 Actual: Apple Predicted: Apple
2692 Actual: Apple Predicted: Apple
2693 Actual: Apple Predicted: Apple
2694 Actual: Banana Predicted: Banana
2695 Actual: Banana Predicted: Banana
2696 Actual: Banana Predicted: Banana
2697 Actual: Banana Predicted: Banana
2698 Actual: Banana Predicted: Banana
2699 Actual: Banana Predicted: Banana
2700 Actual: Banana Predicted: Banana
```

```
2701 Actual: Banana Predicted: Banana
2702 Actual: Banana Predicted: Banana
2703 Actual: Banana Predicted: Orange
2704 Actual: Banana Predicted: Banana
2705 Actual: Banana Predicted: Apple
2706 Actual: Banana Predicted: Banana
2707 Actual: Banana Predicted: Banana
2708 Actual: Banana Predicted: Banana
2709 Actual: Banana Predicted: Banana
2710 Actual: Banana Predicted: Banana
2711 Actual: Banana Predicted: Banana
2712 Actual: Mixed Fruits Predicted: Orange
2713 Actual: Mixed Fruits Predicted: Banana
2714 Actual: Mixed Fruits Predicted: Apple
2715 Actual: Mixed Fruits Predicted: Orange
2716 Actual: Mixed Fruits Predicted: Apple
2717 Actual: Orange Predicted: Orange
2718 Actual: Orange Predicted: Orange
2719 Actual: Orange Predicted: Orange
2720 Actual: Orange Predicted: Orange
2721 Actual: Orange Predicted: Orange
2722 Actual: Orange Predicted: Orange
2723 Actual: Orange Predicted: Orange
2724 Actual: Orange Predicted: Orange
2725 Actual: Orange Predicted: Orange
2726 Actual: Orange Predicted: Orange
2727 Actual: Orange Predicted: Orange
2728 Actual: Orange Predicted: Orange
2729 Actual: Orange Predicted: Apple
2730 Actual: Orange Predicted: Orange
2731 Actual: Orange Predicted: Orange
2732 Actual: Orange Predicted: Orange
2733 Actual: Orange Predicted: Orange
2734 Actual: Orange Predicted: Orange
2735 Epoch 1/100
2736 1/1 [=====] - 0s 345ms/
  step - loss: 1.3852 - accuracy: 0.2542 - val_loss:
  1.8751 - val_accuracy: 0.3000
2737 Epoch 2/100
2738 1/1 [=====] - 0s 169ms/
  step - loss: 2.0284 - accuracy: 0.2917 - val_loss:
  1.3505 - val_accuracy: 0.3000
2739 Epoch 3/100
2740 1/1 [=====] - 0s 178ms/
```

```
2740 step - loss: 1.3436 - accuracy: 0.3042 - val_loss:  
    1.3655 - val_accuracy: 0.3000  
2741 Epoch 4/100  
2742 1/1 [=====] - 0s 187ms/  
    step - loss: 1.3693 - accuracy: 0.3375 - val_loss:  
    1.3783 - val_accuracy: 0.3667  
2743 Epoch 5/100  
2744 1/1 [=====] - 0s 175ms/  
    step - loss: 1.3775 - accuracy: 0.3083 - val_loss:  
    1.3587 - val_accuracy: 0.3167  
2745 Epoch 6/100  
2746 1/1 [=====] - 0s 201ms/  
    step - loss: 1.3622 - accuracy: 0.3167 - val_loss:  
    1.3409 - val_accuracy: 0.3167  
2747 Epoch 7/100  
2748 1/1 [=====] - 0s 185ms/  
    step - loss: 1.3513 - accuracy: 0.3250 - val_loss:  
    1.3149 - val_accuracy: 0.3167  
2749 Epoch 8/100  
2750 1/1 [=====] - 0s 169ms/  
    step - loss: 1.3133 - accuracy: 0.3250 - val_loss:  
    1.2867 - val_accuracy: 0.3167  
2751 Epoch 9/100  
2752 1/1 [=====] - 0s 186ms/  
    step - loss: 1.3332 - accuracy: 0.3083 - val_loss:  
    1.2729 - val_accuracy: 0.3500  
2753 Epoch 10/100  
2754 1/1 [=====] - 0s 185ms/  
    step - loss: 1.2681 - accuracy: 0.4375 - val_loss:  
    1.2447 - val_accuracy: 0.3667  
2755 Epoch 11/100  
2756 1/1 [=====] - 0s 178ms/  
    step - loss: 1.2475 - accuracy: 0.3958 - val_loss:  
    1.2204 - val_accuracy: 0.3667  
2757 Epoch 12/100  
2758 1/1 [=====] - 0s 189ms/  
    step - loss: 1.2624 - accuracy: 0.3667 - val_loss:  
    1.2165 - val_accuracy: 0.5833  
2759 Epoch 13/100  
2760 1/1 [=====] - 0s 180ms/  
    step - loss: 1.2653 - accuracy: 0.4750 - val_loss:  
    1.1638 - val_accuracy: 0.6000  
2761 Epoch 14/100  
2762 1/1 [=====] - 0s 185ms/
```

```
2762 step - loss: 1.1789 - accuracy: 0.5583 - val_loss:  
    1.1266 - val_accuracy: 0.3167  
2763 Epoch 15/100  
2764 1/1 [=====] - 0s 185ms/  
    step - loss: 1.1865 - accuracy: 0.3833 - val_loss:  
    1.0673 - val_accuracy: 0.7000  
2765 Epoch 16/100  
2766 1/1 [=====] - 0s 182ms/  
    step - loss: 1.1024 - accuracy: 0.5750 - val_loss:  
    1.0291 - val_accuracy: 0.5833  
2767 Epoch 17/100  
2768 1/1 [=====] - 0s 181ms/  
    step - loss: 1.0763 - accuracy: 0.4958 - val_loss:  
    0.9672 - val_accuracy: 0.5667  
2769 Epoch 18/100  
2770 1/1 [=====] - 0s 188ms/  
    step - loss: 1.0508 - accuracy: 0.5208 - val_loss:  
    0.9118 - val_accuracy: 0.6500  
2771 Epoch 19/100  
2772 1/1 [=====] - 0s 185ms/  
    step - loss: 0.9559 - accuracy: 0.6125 - val_loss:  
    0.8939 - val_accuracy: 0.6667  
2773 Epoch 20/100  
2774 1/1 [=====] - 0s 178ms/  
    step - loss: 0.9353 - accuracy: 0.5875 - val_loss:  
    0.8857 - val_accuracy: 0.7167  
2775 Epoch 21/100  
2776 1/1 [=====] - 0s 166ms/  
    step - loss: 0.8739 - accuracy: 0.6458 - val_loss:  
    0.8892 - val_accuracy: 0.6833  
2777 Epoch 22/100  
2778 1/1 [=====] - 0s 216ms/  
    step - loss: 0.9018 - accuracy: 0.6417 - val_loss:  
    0.8707 - val_accuracy: 0.6833  
2779 Epoch 23/100  
2780 1/1 [=====] - 0s 176ms/  
    step - loss: 0.8326 - accuracy: 0.6625 - val_loss:  
    0.9038 - val_accuracy: 0.6500  
2781 Epoch 24/100  
2782 1/1 [=====] - 0s 175ms/  
    step - loss: 0.8348 - accuracy: 0.6500 - val_loss:  
    0.9039 - val_accuracy: 0.6500  
2783 Epoch 25/100  
2784 1/1 [=====] - 0s 171ms/
```

```
2784 step - loss: 0.7636 - accuracy: 0.6708 - val_loss:  
0.9786 - val_accuracy: 0.6167  
2785 Epoch 26/100  
2786 1/1 [=====] - 0s 181ms/  
step - loss: 0.7991 - accuracy: 0.6667 - val_loss:  
0.8796 - val_accuracy: 0.6833  
2787 Epoch 27/100  
2788 1/1 [=====] - 0s 170ms/  
step - loss: 0.7770 - accuracy: 0.6708 - val_loss:  
0.8799 - val_accuracy: 0.6667  
2789 Epoch 28/100  
2790 1/1 [=====] - 0s 178ms/  
step - loss: 0.7048 - accuracy: 0.7000 - val_loss:  
0.9207 - val_accuracy: 0.6500  
2791 Epoch 29/100  
2792 1/1 [=====] - 0s 200ms/  
step - loss: 0.7361 - accuracy: 0.6792 - val_loss:  
0.8478 - val_accuracy: 0.6667  
2793 Epoch 30/100  
2794 1/1 [=====] - 0s 183ms/  
step - loss: 0.6839 - accuracy: 0.7042 - val_loss:  
0.7671 - val_accuracy: 0.7000  
2795 Epoch 31/100  
2796 1/1 [=====] - 0s 178ms/  
step - loss: 0.6727 - accuracy: 0.7083 - val_loss:  
0.7595 - val_accuracy: 0.7667  
2797 Epoch 32/100  
2798 1/1 [=====] - 0s 192ms/  
step - loss: 0.6547 - accuracy: 0.7250 - val_loss:  
0.8048 - val_accuracy: 0.8000  
2799 Epoch 33/100  
2800 1/1 [=====] - 0s 185ms/  
step - loss: 0.6254 - accuracy: 0.7333 - val_loss:  
0.6896 - val_accuracy: 0.8333  
2801 Epoch 34/100  
2802 1/1 [=====] - 0s 185ms/  
step - loss: 0.6192 - accuracy: 0.7458 - val_loss:  
0.6821 - val_accuracy: 0.8333  
2803 Epoch 35/100  
2804 1/1 [=====] - 0s 479ms/  
step - loss: 0.6408 - accuracy: 0.7958 - val_loss:  
0.8677 - val_accuracy: 0.8667  
2805 Epoch 36/100  
2806 1/1 [=====] - 0s 200ms/
```

```
2806 step - loss: 0.6323 - accuracy: 0.7792 - val_loss:  
0.7132 - val_accuracy: 0.8333  
2807 Epoch 37/100  
2808 1/1 [=====] - 0s 201ms/  
step - loss: 0.4993 - accuracy: 0.8125 - val_loss:  
0.6111 - val_accuracy: 0.8333  
2809 Epoch 38/100  
2810 1/1 [=====] - 0s 185ms/  
step - loss: 0.5277 - accuracy: 0.8417 - val_loss:  
0.5745 - val_accuracy: 0.8667  
2811 Epoch 39/100  
2812 1/1 [=====] - 0s 185ms/  
step - loss: 0.5048 - accuracy: 0.8458 - val_loss:  
0.6830 - val_accuracy: 0.8667  
2813 Epoch 40/100  
2814 1/1 [=====] - 0s 194ms/  
step - loss: 0.4182 - accuracy: 0.8542 - val_loss:  
0.9506 - val_accuracy: 0.8500  
2815 Epoch 41/100  
2816 1/1 [=====] - 0s 201ms/  
step - loss: 0.4954 - accuracy: 0.8000 - val_loss:  
0.5975 - val_accuracy: 0.8667  
2817 Epoch 42/100  
2818 1/1 [=====] - 0s 201ms/  
step - loss: 0.3884 - accuracy: 0.8667 - val_loss:  
0.5370 - val_accuracy: 0.8500  
2819 Epoch 43/100  
2820 1/1 [=====] - 0s 185ms/  
step - loss: 0.5051 - accuracy: 0.8167 - val_loss:  
0.5709 - val_accuracy: 0.8667  
2821 Epoch 44/100  
2822 1/1 [=====] - 0s 188ms/  
step - loss: 0.4154 - accuracy: 0.8458 - val_loss:  
0.7199 - val_accuracy: 0.8667  
2823 Epoch 45/100  
2824 1/1 [=====] - 0s 183ms/  
step - loss: 0.3813 - accuracy: 0.8583 - val_loss:  
0.9256 - val_accuracy: 0.8667  
2825 Epoch 46/100  
2826 1/1 [=====] - 0s 201ms/  
step - loss: 0.4609 - accuracy: 0.8583 - val_loss:  
0.6419 - val_accuracy: 0.8667  
2827 Epoch 47/100  
2828 1/1 [=====] - 0s 186ms/
```

```
2828 step - loss: 0.3868 - accuracy: 0.8542 - val_loss:  
    0.5622 - val_accuracy: 0.8833  
2829 Epoch 48/100  
2830 1/1 [=====] - 0s 188ms/  
    step - loss: 0.3280 - accuracy: 0.8708 - val_loss:  
    0.5739 - val_accuracy: 0.8833  
2831 Epoch 49/100  
2832 1/1 [=====] - 0s 166ms/  
    step - loss: 0.3979 - accuracy: 0.8500 - val_loss:  
    0.5177 - val_accuracy: 0.8833  
2833 Epoch 50/100  
2834 1/1 [=====] - 0s 163ms/  
    step - loss: 0.3141 - accuracy: 0.8875 - val_loss:  
    0.5663 - val_accuracy: 0.8500  
2835 Epoch 51/100  
2836 1/1 [=====] - 0s 154ms/  
    step - loss: 0.3519 - accuracy: 0.8750 - val_loss:  
    0.7654 - val_accuracy: 0.8667  
2837 Epoch 52/100  
2838 1/1 [=====] - 0s 163ms/  
    step - loss: 0.3460 - accuracy: 0.8833 - val_loss:  
    0.9610 - val_accuracy: 0.8667  
2839 Epoch 53/100  
2840 1/1 [=====] - 0s 169ms/  
    step - loss: 0.3965 - accuracy: 0.8458 - val_loss:  
    0.6864 - val_accuracy: 0.8667  
2841 Epoch 54/100  
2842 1/1 [=====] - 0s 186ms/  
    step - loss: 0.2795 - accuracy: 0.8792 - val_loss:  
    0.5856 - val_accuracy: 0.8667  
2843 Epoch 55/100  
2844 1/1 [=====] - 0s 185ms/  
    step - loss: 0.3382 - accuracy: 0.8708 - val_loss:  
    0.5859 - val_accuracy: 0.8833  
2845 Epoch 56/100  
2846 1/1 [=====] - 0s 171ms/  
    step - loss: 0.3458 - accuracy: 0.8750 - val_loss:  
    0.5979 - val_accuracy: 0.8667  
2847 Epoch 57/100  
2848 1/1 [=====] - 0s 163ms/  
    step - loss: 0.3325 - accuracy: 0.8667 - val_loss:  
    0.6650 - val_accuracy: 0.8833  
2849 Epoch 58/100  
2850 1/1 [=====] - 0s 164ms/
```

```
2850 step - loss: 0.2965 - accuracy: 0.8792 - val_loss:  
    0.7963 - val_accuracy: 0.8833  
2851 Epoch 59/100  
2852 1/1 [=====] - 0s 179ms/  
    step - loss: 0.2738 - accuracy: 0.8958 - val_loss:  
    1.0248 - val_accuracy: 0.8500  
2853 Epoch 60/100  
2854 1/1 [=====] - 0s 185ms/  
    step - loss: 0.2888 - accuracy: 0.9000 - val_loss:  
    0.9301 - val_accuracy: 0.8500  
2855 Epoch 61/100  
2856 1/1 [=====] - 0s 186ms/  
    step - loss: 0.2669 - accuracy: 0.8917 - val_loss:  
    0.7989 - val_accuracy: 0.8667  
2857 Epoch 62/100  
2858 1/1 [=====] - 0s 185ms/  
    step - loss: 0.2202 - accuracy: 0.9167 - val_loss:  
    0.7454 - val_accuracy: 0.9000  
2859 Epoch 63/100  
2860 1/1 [=====] - 0s 189ms/  
    step - loss: 0.2292 - accuracy: 0.9125 - val_loss:  
    0.7223 - val_accuracy: 0.9000  
2861 Epoch 64/100  
2862 1/1 [=====] - 0s 185ms/  
    step - loss: 0.2673 - accuracy: 0.8958 - val_loss:  
    0.7025 - val_accuracy: 0.9000  
2863 Epoch 65/100  
2864 1/1 [=====] - 0s 201ms/  
    step - loss: 0.2277 - accuracy: 0.9125 - val_loss:  
    0.7526 - val_accuracy: 0.8833  
2865 Epoch 66/100  
2866 1/1 [=====] - 0s 177ms/  
    step - loss: 0.1932 - accuracy: 0.9250 - val_loss:  
    0.8921 - val_accuracy: 0.8833  
2867 Epoch 67/100  
2868 1/1 [=====] - 0s 201ms/  
    step - loss: 0.2070 - accuracy: 0.9167 - val_loss:  
    1.0641 - val_accuracy: 0.8833  
2869 Epoch 68/100  
2870 1/1 [=====] - 0s 163ms/  
    step - loss: 0.2110 - accuracy: 0.9000 - val_loss:  
    1.0525 - val_accuracy: 0.8833  
2871 Epoch 69/100  
2872 1/1 [=====] - 0s 163ms/
```

```
2872 step - loss: 0.2130 - accuracy: 0.9125 - val_loss:  
    1.0973 - val_accuracy: 0.8833  
2873 Epoch 70/100  
2874 1/1 [=====] - 0s 163ms/  
    step - loss: 0.1970 - accuracy: 0.9250 - val_loss:  
    1.1348 - val_accuracy: 0.8833  
2875 Epoch 71/100  
2876 1/1 [=====] - 0s 163ms/  
    step - loss: 0.1869 - accuracy: 0.9083 - val_loss:  
    1.1747 - val_accuracy: 0.8833  
2877 Epoch 72/100  
2878 1/1 [=====] - 0s 169ms/  
    step - loss: 0.1619 - accuracy: 0.9458 - val_loss:  
    1.1038 - val_accuracy: 0.9000  
2879 Epoch 73/100  
2880 1/1 [=====] - 0s 172ms/  
    step - loss: 0.1984 - accuracy: 0.8917 - val_loss:  
    1.1076 - val_accuracy: 0.9000  
2881 Epoch 74/100  
2882 1/1 [=====] - 0s 182ms/  
    step - loss: 0.2231 - accuracy: 0.8833 - val_loss:  
    1.0923 - val_accuracy: 0.8667  
2883 Epoch 75/100  
2884 1/1 [=====] - 0s 178ms/  
    step - loss: 0.1716 - accuracy: 0.9250 - val_loss:  
    1.0721 - val_accuracy: 0.8500  
2885 Epoch 76/100  
2886 1/1 [=====] - 0s 171ms/  
    step - loss: 0.2010 - accuracy: 0.9208 - val_loss:  
    1.0436 - val_accuracy: 0.8667  
2887 Epoch 77/100  
2888 1/1 [=====] - 0s 178ms/  
    step - loss: 0.1505 - accuracy: 0.9292 - val_loss:  
    1.0354 - val_accuracy: 0.9000  
2889 Epoch 78/100  
2890 1/1 [=====] - 0s 188ms/  
    step - loss: 0.1583 - accuracy: 0.9375 - val_loss:  
    1.0315 - val_accuracy: 0.9000  
2891 Epoch 79/100  
2892 1/1 [=====] - 0s 169ms/  
    step - loss: 0.1637 - accuracy: 0.9250 - val_loss:  
    0.9613 - val_accuracy: 0.8833  
2893 Epoch 80/100  
2894 1/1 [=====] - 0s 185ms/
```

```
2894 step - loss: 0.1652 - accuracy: 0.9292 - val_loss:  
    1.0064 - val_accuracy: 0.8667  
2895 Epoch 81/100  
2896 1/1 [=====] - 0s 194ms/  
    step - loss: 0.1684 - accuracy: 0.9250 - val_loss:  
    0.9884 - val_accuracy: 0.8833  
2897 Epoch 82/100  
2898 1/1 [=====] - 0s 178ms/  
    step - loss: 0.1530 - accuracy: 0.9375 - val_loss:  
    1.0666 - val_accuracy: 0.9000  
2899 Epoch 83/100  
2900 1/1 [=====] - 0s 169ms/  
    step - loss: 0.1590 - accuracy: 0.9458 - val_loss:  
    1.0745 - val_accuracy: 0.9000  
2901 Epoch 84/100  
2902 1/1 [=====] - 0s 182ms/  
    step - loss: 0.1524 - accuracy: 0.9333 - val_loss:  
    1.0622 - val_accuracy: 0.8833  
2903 Epoch 85/100  
2904 1/1 [=====] - 0s 182ms/  
    step - loss: 0.1565 - accuracy: 0.9208 - val_loss:  
    1.0696 - val_accuracy: 0.8833  
2905 Epoch 86/100  
2906 1/1 [=====] - 0s 185ms/  
    step - loss: 0.1375 - accuracy: 0.9458 - val_loss:  
    1.1038 - val_accuracy: 0.8833  
2907 Epoch 87/100  
2908 1/1 [=====] - 0s 187ms/  
    step - loss: 0.1283 - accuracy: 0.9333 - val_loss:  
    1.1526 - val_accuracy: 0.8833  
2909 Epoch 88/100  
2910 1/1 [=====] - 0s 191ms/  
    step - loss: 0.1386 - accuracy: 0.9333 - val_loss:  
    1.2556 - val_accuracy: 0.8833  
2911 Epoch 89/100  
2912 1/1 [=====] - 0s 169ms/  
    step - loss: 0.1828 - accuracy: 0.9125 - val_loss:  
    1.4372 - val_accuracy: 0.8667  
2913 Epoch 90/100  
2914 1/1 [=====] - 0s 185ms/  
    step - loss: 0.1519 - accuracy: 0.9125 - val_loss:  
    1.6916 - val_accuracy: 0.8667  
2915 Epoch 91/100  
2916 1/1 [=====] - 0s 178ms/
```

```
2916 step - loss: 0.1848 - accuracy: 0.9083 - val_loss:  
    1.6674 - val_accuracy: 0.8833  
2917 Epoch 92/100  
2918 1/1 [=====] - 0s 214ms/  
    step - loss: 0.1846 - accuracy: 0.9083 - val_loss:  
    1.4177 - val_accuracy: 0.8833  
2919 Epoch 93/100  
2920 1/1 [=====] - 0s 167ms/  
    step - loss: 0.1419 - accuracy: 0.9208 - val_loss:  
    1.2788 - val_accuracy: 0.8833  
2921 Epoch 94/100  
2922 1/1 [=====] - 0s 178ms/  
    step - loss: 0.1137 - accuracy: 0.9500 - val_loss:  
    1.2179 - val_accuracy: 0.8833  
2923 Epoch 95/100  
2924 1/1 [=====] - 0s 171ms/  
    step - loss: 0.1433 - accuracy: 0.9375 - val_loss:  
    1.2041 - val_accuracy: 0.8833  
2925 Epoch 96/100  
2926 1/1 [=====] - 0s 170ms/  
    step - loss: 0.1395 - accuracy: 0.9292 - val_loss:  
    1.2462 - val_accuracy: 0.8833  
2927 Epoch 97/100  
2928 1/1 [=====] - 0s 169ms/  
    step - loss: 0.1379 - accuracy: 0.9292 - val_loss:  
    1.3942 - val_accuracy: 0.8667  
2929 Epoch 98/100  
2930 1/1 [=====] - 0s 178ms/  
    step - loss: 0.1279 - accuracy: 0.9417 - val_loss:  
    1.5255 - val_accuracy: 0.8667  
2931 Epoch 99/100  
2932 1/1 [=====] - 0s 169ms/  
    step - loss: 0.1440 - accuracy: 0.9333 - val_loss:  
    1.4943 - val_accuracy: 0.8667  
2933 Epoch 100/100  
2934 1/1 [=====] - 0s 185ms/  
    step - loss: 0.1305 - accuracy: 0.9458 - val_loss:  
    1.4397 - val_accuracy: 0.8833  
2935  
2936 Duration of training  
2937 --- 413.1501123905182 seconds ---  
2938  
2939 Predicting...  
2940 2/2 [=====] - 0s 46ms/step
```

```
2940 - loss: 1.4397 - accuracy: 0.8833
2941 score = [1.4396604299545288, 0.8833333253860474]
2942
2943 Duration of prediction
2944 --- 0.23708796501159668 seconds ---
2945
2946 --- Comparison of actual vs predicted ---
2947 WARNING:tensorflow:6 out of the last 11 calls to <
function Model.make_predict_function.<locals>.
predict_function at 0x0000027A44600550> triggered
tf.function retracing. Tracing is expensive and the
excessive number of tracings could be due to (1)
creating @tf.function repeatedly in a loop, (2)
passing tensors with different shapes, (3) passing
Python objects instead of tensors. For (1), please
define your @tf.function outside of the loop. For (2),
@tf.function has experimental_relax_shapes=True
option that relaxes argument shapes that can avoid
unnecessary retracing. For (3), please refer to
https://www.tensorflow.org/tutorials/customization/performance#python\_or\_tensor\_args and https://www.tensorflow.org/api\_docs/python/tf/function for
more details.
2948 Actual: Apple Predicted: Apple
2949 Actual: Apple Predicted: Apple
2950 Actual: Apple Predicted: Apple
2951 Actual: Apple Predicted: Apple
2952 Actual: Apple Predicted: Apple
2953 Actual: Apple Predicted: Apple
2954 Actual: Apple Predicted: Apple
2955 Actual: Apple Predicted: Apple
2956 Actual: Apple Predicted: Apple
2957 Actual: Apple Predicted: Apple
2958 Actual: Apple Predicted: Apple
2959 Actual: Apple Predicted: Apple
2960 Actual: Apple Predicted: Apple
2961 Actual: Apple Predicted: Apple
2962 Actual: Apple Predicted: Apple
2963 Actual: Apple Predicted: Apple
2964 Actual: Apple Predicted: Apple
2965 Actual: Apple Predicted: Apple
2966 Actual: Apple Predicted: Apple
2967 Actual: Banana Predicted: Banana
2968 Actual: Banana Predicted: Banana
```

2969	Actual:	Banana	Predicted:	Banana
2970	Actual:	Banana	Predicted:	Banana
2971	Actual:	Banana	Predicted:	Banana
2972	Actual:	Banana	Predicted:	Banana
2973	Actual:	Banana	Predicted:	Banana
2974	Actual:	Banana	Predicted:	Banana
2975	Actual:	Banana	Predicted:	Banana
2976	Actual:	Banana	Predicted:	Orange
2977	Actual:	Banana	Predicted:	Banana
2978	Actual:	Banana	Predicted:	Apple
2979	Actual:	Banana	Predicted:	Banana
2980	Actual:	Banana	Predicted:	Banana
2981	Actual:	Banana	Predicted:	Banana
2982	Actual:	Banana	Predicted:	Banana
2983	Actual:	Banana	Predicted:	Banana
2984	Actual:	Banana	Predicted:	Banana
2985	Actual:	Mixed Fruits	Predicted:	Orange
2986	Actual:	Mixed Fruits	Predicted:	Banana
2987	Actual:	Mixed Fruits	Predicted:	Apple
2988	Actual:	Mixed Fruits	Predicted:	Apple
2989	Actual:	Mixed Fruits	Predicted:	Apple
2990	Actual:	Orange	Predicted:	Orange
2991	Actual:	Orange	Predicted:	Orange
2992	Actual:	Orange	Predicted:	Orange
2993	Actual:	Orange	Predicted:	Orange
2994	Actual:	Orange	Predicted:	Orange
2995	Actual:	Orange	Predicted:	Orange
2996	Actual:	Orange	Predicted:	Orange
2997	Actual:	Orange	Predicted:	Orange
2998	Actual:	Orange	Predicted:	Orange
2999	Actual:	Orange	Predicted:	Orange
3000	Actual:	Orange	Predicted:	Orange
3001	Actual:	Orange	Predicted:	Orange
3002	Actual:	Orange	Predicted:	Orange
3003	Actual:	Orange	Predicted:	Orange
3004	Actual:	Orange	Predicted:	Orange
3005	Actual:	Orange	Predicted:	Orange
3006	Actual:	Orange	Predicted:	Orange
3007	Actual:	Orange	Predicted:	Orange
3008				
3009		Summary of runs		
3010				
3011	Model	Image Size	Accuracy	Training Duration
3012	0	cnn1	34 x 34	0.850000 8.369520

3013	1	cnn2	34 x 34	0.900000	20.212084
3014	2	cnn3	34 x 34	0.883333	9.878860
3015	3	cnn4	34 x 34	0.900000	20.893896
3016	4	cnn1	128 x 128	0.866667	111.905242
3017	5	cnn2	128 x 128	0.850000	237.557989
3018	6	cnn3	128 x 128	0.866667	138.428092
3019	7	cnn4	128 x 128	0.883333	413.150112
3020	libpng	warning:	iCCP: known incorrect sRGB profile		
3021	libpng	warning:	iCCP: known incorrect sRGB profile		
3022	libpng	warning:	iCCP: known incorrect sRGB profile		
3023	libpng	warning:	iCCP: known incorrect sRGB profile		
3024	libpng	warning:	iCCP: known incorrect sRGB profile		
3025	libpng	warning:	iCCP: known incorrect sRGB profile		
3026	libpng	warning:	iCCP: known incorrect sRGB profile		
3027	libpng	warning:	iCCP: known incorrect sRGB profile		
3028	libpng	warning:	iCCP: known incorrect sRGB profile		
3029	libpng	warning:	iCCP: known incorrect sRGB profile		
3030					
3031			Process finished with exit code 0		
3032					