

```

1 C:\Users\toivo\anaconda3\python.exe "C:/Users/toivo/
  OneDrive - TUNI.fi/Kurssimateriaalit/DATA.ML.200
  Pattern Recognition and Machine Learning/Exercises/
  Ex5/Ex5.py"
2 2022-04-07 11:16:13.869279: W tensorflow/
  stream_executor/platform/default/dso_loader.cc:64]
  Could not load dynamic library 'cudart64_110.dll';
  dlerror: cudart64_110.dll not found
3 2022-04-07 11:16:13.869815: 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 2022-04-07 11:16:28.638639: W tensorflow/
  stream_executor/platform/default/dso_loader.cc:64]
  Could not load dynamic library 'nvcuda.dll'; dlerror
  : nvcuda.dll not found
5 2022-04-07 11:16:28.639543: W tensorflow/
  stream_executor/cuda/cuda_driver.cc:269] failed call
  to cuInit: UNKNOWN ERROR (303)
6 2022-04-07 11:16:28.652515: I tensorflow/
  stream_executor/cuda/cuda_diagnostics.cc:169]
  retrieving CUDA diagnostic information for host:
  DESKTOP-LPPS6UM
7 2022-04-07 11:16:28.654506: I tensorflow/
  stream_executor/cuda/cuda_diagnostics.cc:176]
  hostname: DESKTOP-LPPS6UM
8 2022-04-07 11:16:28.656699: I tensorflow/core/
  platform/cpu_feature_guard.cc:151] This TensorFlow
  binary is optimized with oneAPI Deep Neural Network
  Library (oneDNN) to use the following CPU
  instructions in performance-critical operations:  AVX
  AVX2
9 To enable them in other operations, rebuild
  TensorFlow with the appropriate compiler flags.
10 Model: "sequential"
11 -----
12 -----
12 Layer (type)                Output Shape
13 Param #
13 =====
13 =====
14 flatten (Flatten)           (None, 12288
14 )                          0
15

```

```

15
16 dense (Dense)                (None, 100
   )                1228900
17
18 dense_1 (Dense)              (None, 100
   )                10100
19
20 dense_2 (Dense)              (None, 10
   )                1010
21
22 =====
   =====
23 Total params: 1,240,010
24 Trainable params: 1,240,010
25 Non-trainable params: 0
26 -----
   -----
27 Epoch 1/10
28 C:\Users\toivo\anaconda3\lib\site-packages\tensorflow
   \python\util\dispatch.py:1082: UserWarning: "`
   binary_crossentropy` received `from_logits=True`, but
   the `output` argument was produced by a sigmoid or
   softmax activation and thus does not represent logits
   . Was this intended?"
29 return dispatch_target(*args, **kwargs)
30 14/14 [=====] - 2s 13ms/step
   - loss: 0.7032 - accuracy: 0.1158
31 Epoch 2/10
32 14/14 [=====] - 0s 14ms/step
   - loss: 0.5707 - accuracy: 0.6123
33 Epoch 3/10
34 14/14 [=====] - 0s 14ms/step
   - loss: 0.4964 - accuracy: 0.6123
35 Epoch 4/10
36 14/14 [=====] - 0s 12ms/step
   - loss: 0.4418 - accuracy: 0.6123
37 Epoch 5/10
38 14/14 [=====] - 0s 9ms/step
   - loss: 0.3998 - accuracy: 0.6123
39 Epoch 6/10
40 14/14 [=====] - 0s 10ms/step

```

```
40 - loss: 0.3664 - accuracy: 0.6123
41 Epoch 7/10
42 14/14 [=====] - 0s 10ms/step
   - loss: 0.3397 - accuracy: 0.6123
43 Epoch 8/10
44 14/14 [=====] - 0s 10ms/step
   - loss: 0.3180 - accuracy: 0.6123
45 Epoch 9/10
46 14/14 [=====] - 0s 10ms/step
   - loss: 0.2990 - accuracy: 0.6123
47 Epoch 10/10
48 14/14 [=====] - 0s 9ms/step
   - loss: 0.2832 - accuracy: 0.6123
49 Training done
50 4/4 - 0s - loss: 0.2808 - accuracy: 0.5660 - 475ms/
   epoch - 119ms/step
51
52 Process finished with exit code 0
53
```