```
File - main (2)
 1 D:\anaconda3\envs\for_thesis_test\python.exe E:/projects/graduation/
   seq2seq_attention_decoder/main.py
 2 D:\anaconda3\envs\for_thesis_test\lib\site-packages\torchtext\vocab\__init__.py:4:
   UserWarning:
 3 /!\ IMPORTANT WARNING ABOUT TORCHTEXT STATUS /!\
 4 Torchtext is deprecated and the last released version will be 0.18 (this one). You can
   silence this warning by calling the following at the beginnign of your scripts: `import
   torchtext; torchtext.disable_torchtext_deprecation_warning()`
     warnings.warn(torchtext._TORCHTEXT_DEPRECATION_MSG)
 6 D:\anaconda3\envs\for_thesis_test\lib\site-packages\torchtext\utils.py:4: UserWarning:
 7 /!\ IMPORTANT WARNING ABOUT TORCHTEXT STATUS /!\
 8 Torchtext is deprecated and the last released version will be 0.18 (this one). You can
   silence this warning by calling the following at the beginnign of your scripts: `import
   torchtext; torchtext.disable_torchtext_deprecation_warning()
     warnings.warn(torchtext._TORCHTEXT_DEPRECATION_MSG)
10 Map: 100%|
                         87710/87710 [00:05<00:00, 16216.45 examples/s]
11 Map: 100%|
                         70168/70168 [00:12<00:00, 5442.27 examples/s]
                         8771/8771 [00:01<00:00, 5377.68 examples/s]
12 Map: 100%|
13 Map: 100%|
                         8771/8771 [00:01<00:00, 4613.89 examples/s]
                         70168/70168 [00:10<00:00, 6472.14 examples/s]
14 Map: 100%|
15 Map: 100%|
                        | 8771/8771 [00:01<00:00, 6172.42 examples/s]
16 Map: 100%
                        | 8771/8771 [00:01<00:00, 5523.30 examples/s]
17 Batch size? = 32
18 Training using: cuda
19 Seq2Seq(
20
     (encoder): Encoder(
21
        (embedding): Embedding(11849, 256)
22
        (rnn): GRU(256, 512, bidirectional=True)
23
        (fc): Linear(in_features=1024, out_features=512, bias=True)
24
        (dropout): Dropout(p=0.5, inplace=False)
25
26
     (decoder): Decoder(
27
        (attention): Attention(
28
         (attn_fc): Linear(in_features=1536, out_features=512, bias=True)
29
         (v_fc): Linear(in_features=512, out_features=1, bias=False)
30
31
        (embedding): Embedding(8967, 256)
        (rnn): GRU(1280, 512)
32
        (fc_out): Linear(in_features=1792, out_features=8967, bias=True)
33
34
        (dropout): Dropout(p=0.5, inplace=False)
35
     )
36)
37 The model has 27,840,007 trainable parameters
                   | 1/10 [11:18<1:41:46, 678.47s/it]
                                                                       2.023 | Train PPL:
                                                        Train Loss:
                                                                                             7.
   558
39
       Valid Loss:
                     0.743 | Valid PPL:
                                           2.103
40
    20%|
                   | 2/10 [22:26<1:29:40, 672.62s/it]
                                                        Train Loss:
                                                                       0.366 | Train PPL:
                                                                                             1.
   442
41
       Valid Loss:
                     0.533 | Valid PPL:
                                           1.705
    30%|
                  | 3/10 [33:37<1:18:22, 671.84s/it]
                                                                       0.212 | Train PPL:
42
                                                        Train Loss:
                                                                                             1.
   237
43
                     0.472 | Valid PPL:
       Valid Loss:
                                           1.603
44
       Train Loss:
                     0.162 | Train PPL:
                                           1.176
                     0.472 | Valid PPL:
45
       Valid Loss:
                                           1.604
    50%|
46
                   | 5/10 [56:08<56:10, 674.17s/it]
                                                        Train Loss:
                                                                       0.148 | Train PPL:
                                                                                            1.
   160
47
       Valid Loss:
                     0.500 | Valid PPL:
                                           1.649
                   | 6/10 [1:07:27<45:02, 675.68s/it]
                                                                       0.127 | Train PPL:
48
    60% l
                                                        Train Loss:
                                                                                             1.
   136
49
       Valid Loss:
                     0.447 | Valid PPL:
                                           1.563
50
       Train Loss:
                      0.127 | Train PPL:
                                           1.136
       Valid Loss:
                     0.461 | Valid PPL:
51
                                           1.586
52
    80%|
                | 8/10 [1:30:09<22:37, 678.56s/it]
                                                        Train Loss:
                                                                       0.127 | Train PPL:
   136
53
                      0.471 | Valid PPL:
                                           1.602
       Valid Loss:
                     0.118 | Train PPL:
54
       Train Loss:
                                           1.125
```

1.611

0.477 | Valid PPL:

Valid Loss:

55

```
File - main (2)

56 100% | 10/10 [1:52:45<00:00, 676.59s/it]

57 Train Loss: 0.122 | Train PPL: 1.130

58 Valid Loss: 0.522 | Valid PPL: 1.685

59 | Test Loss: 0.642 | Test PPL: 1.900 |

60 100% | 8771/8771 [04:12<00:00, 34.72it/s]

61 {'bleu': 0.9057503152090418, 'precisions': [0.9372667910447762, 0.9147575919019713, 0.8953312548713952, 0.876760504552669], 'brevity_penalty': 1.0, 'length_ratio': 1.0066909261650427, 'translation_length': 145792, 'reference_length': 144823}

62

63 Process finished with exit code 0

64
```