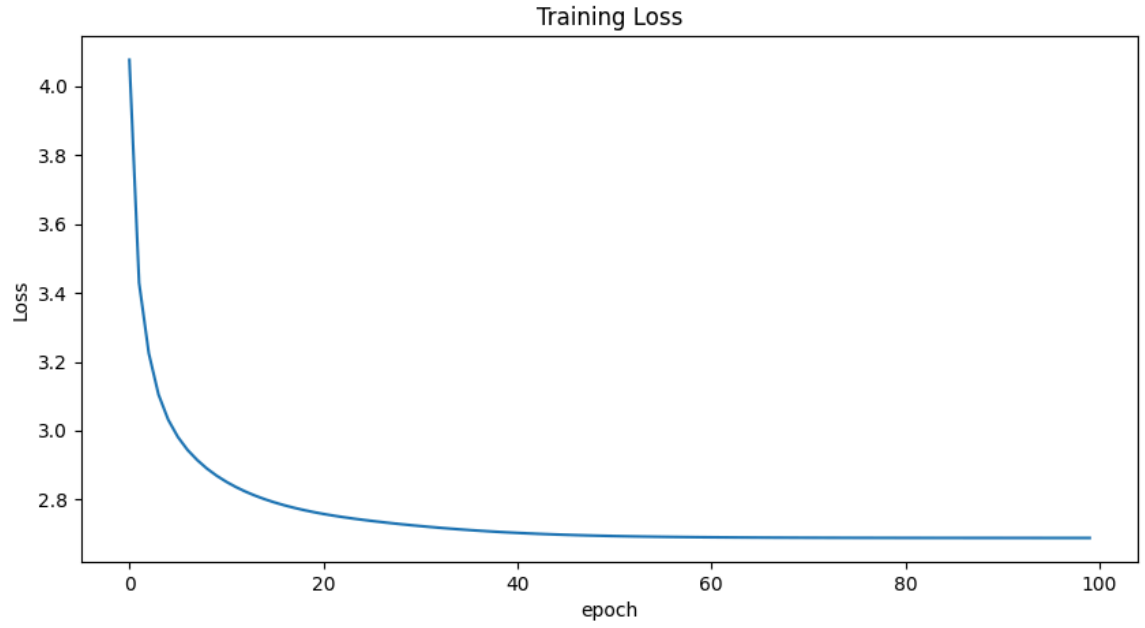
Experiment Report

1. Reqiurement 3

a. Screenshot of loss curve



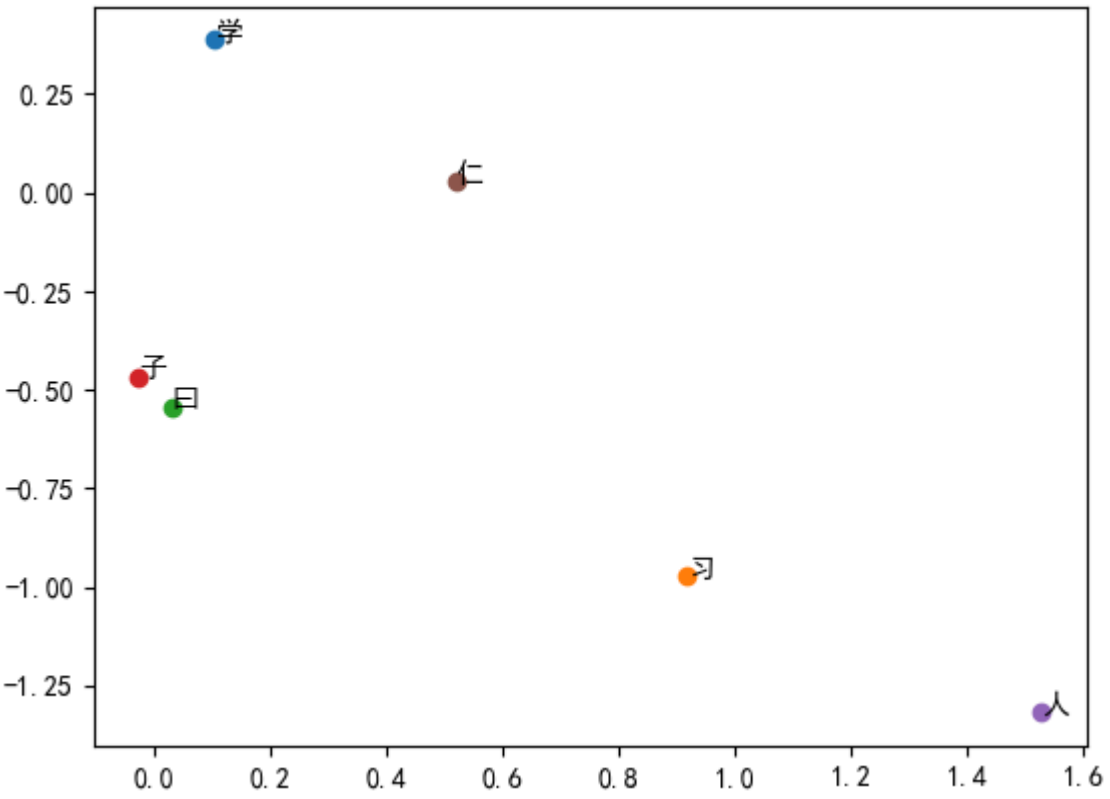
b. Briefly describe how to determine the training epochs

I initially train 100 epochs, and it takes over 30 minutes. Though I found that the loss curve is still lightly decreasing, I decided to stop the training because it takes too long. I think the model is already trained well enough by 50 epochs.

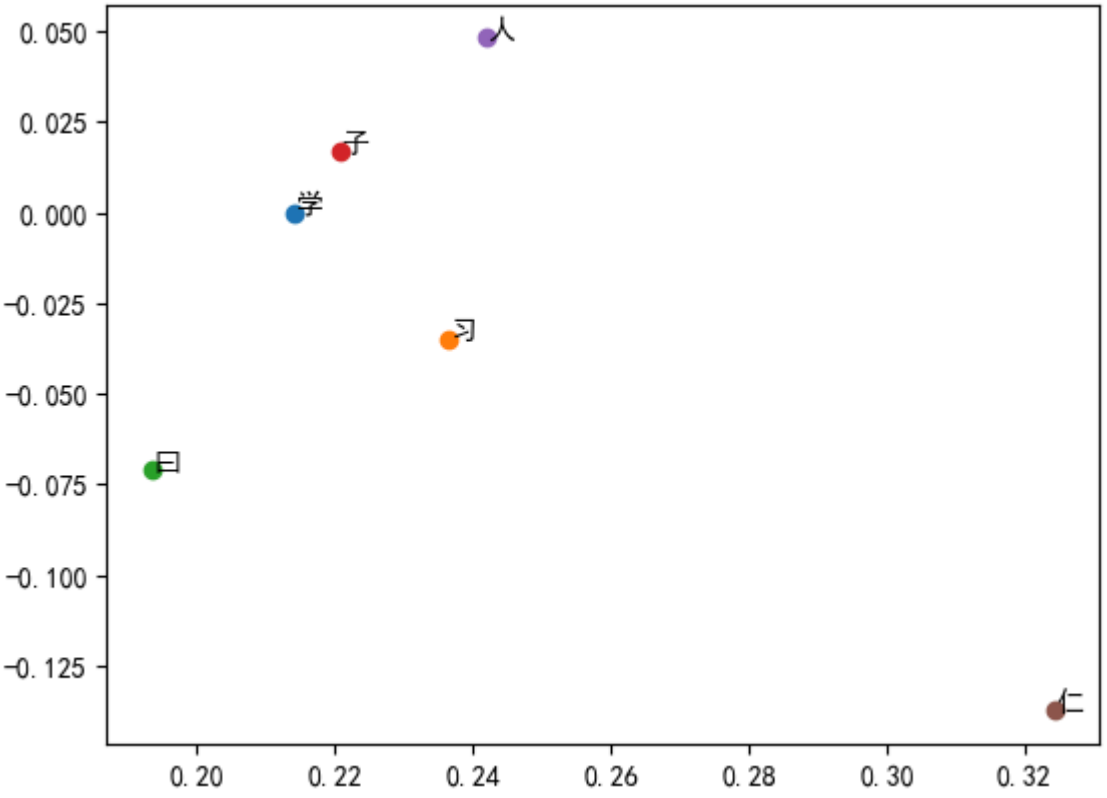
2. Requirement 5

a. Embedding results

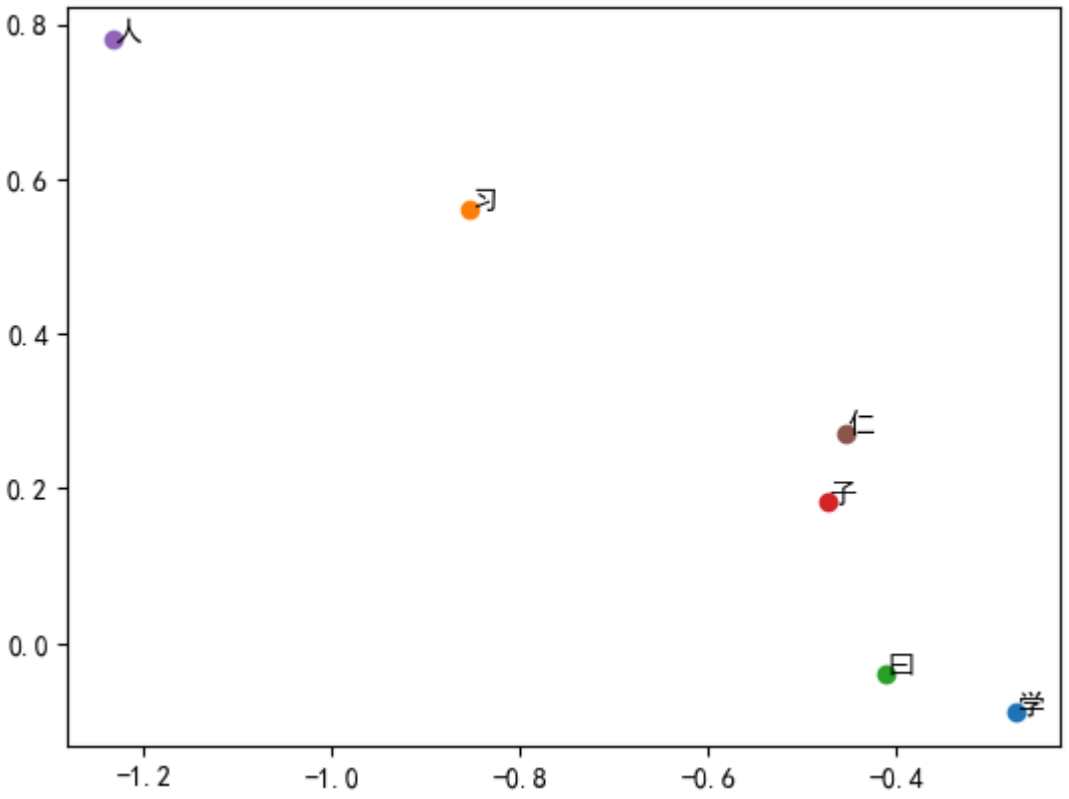
- emb_size:50, k:2, window_size:1



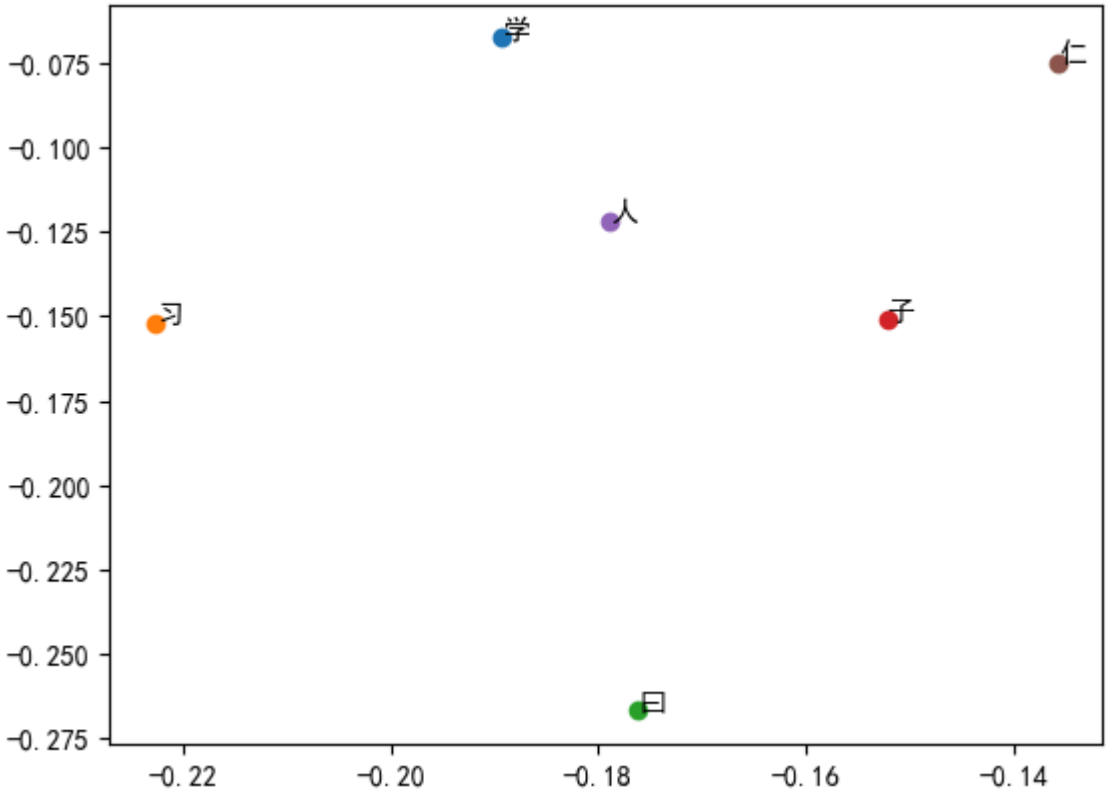
- emb_size:50, k:2, window_size:3



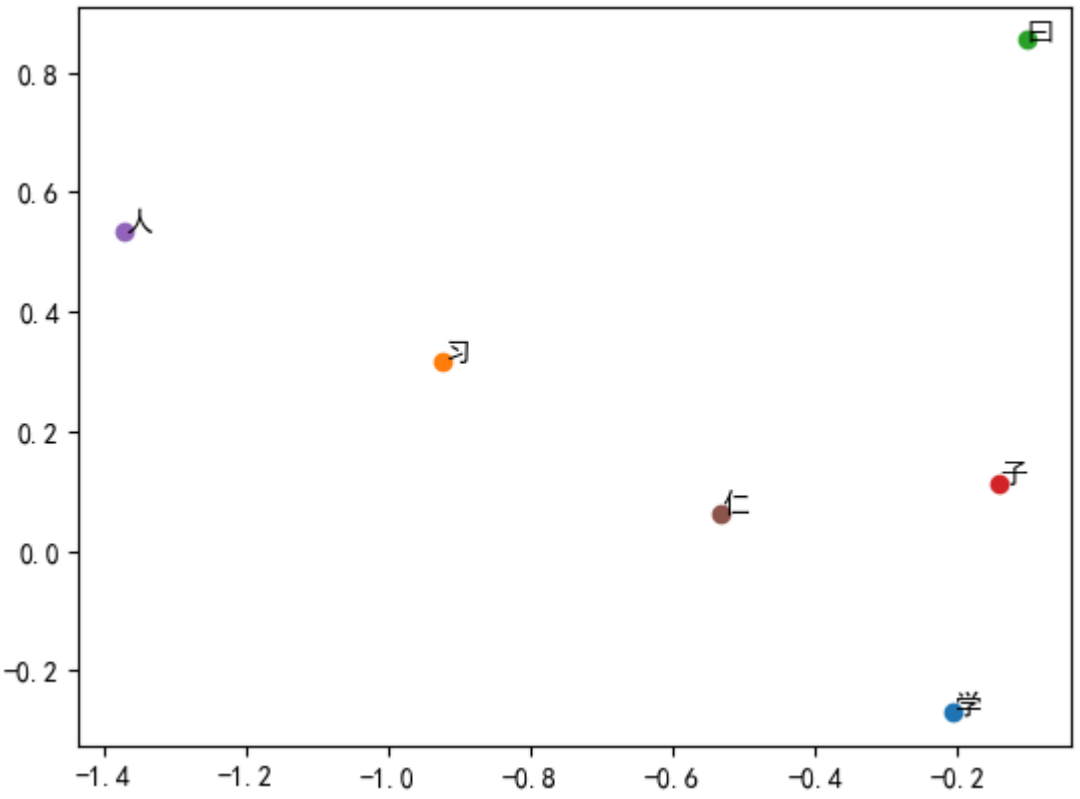
- emb_size:50, k:5, window_size:1



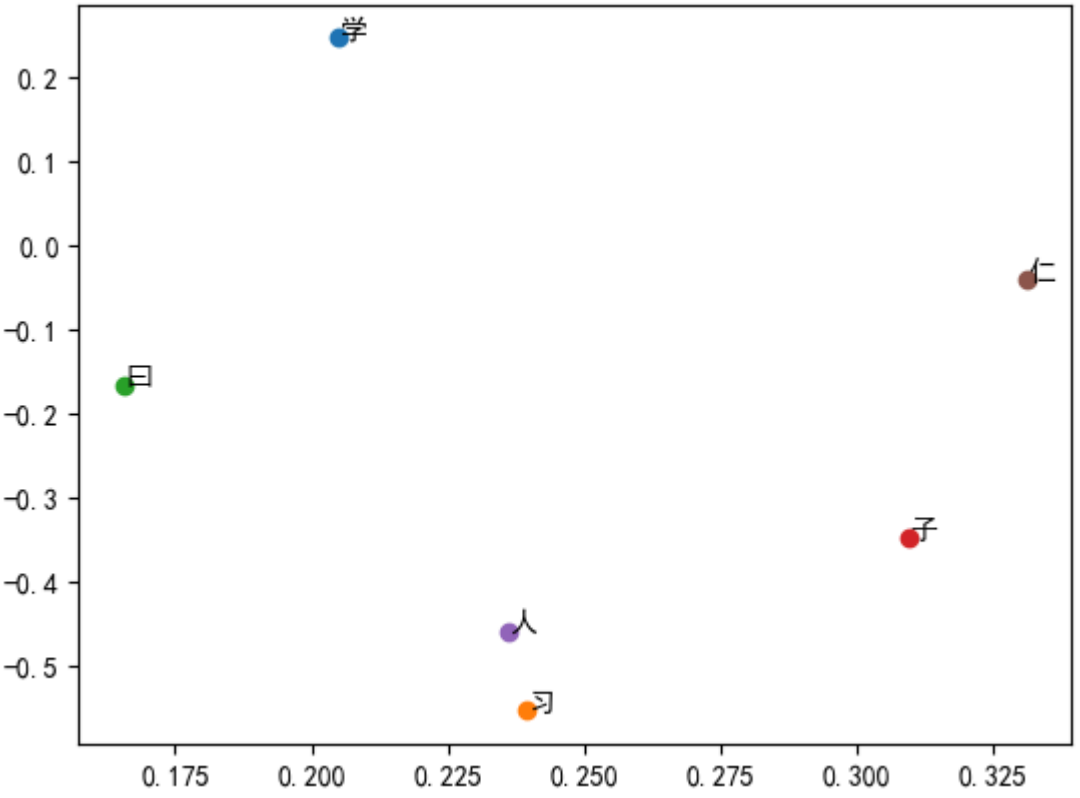
- emb_size:50, k:5, window_size:3



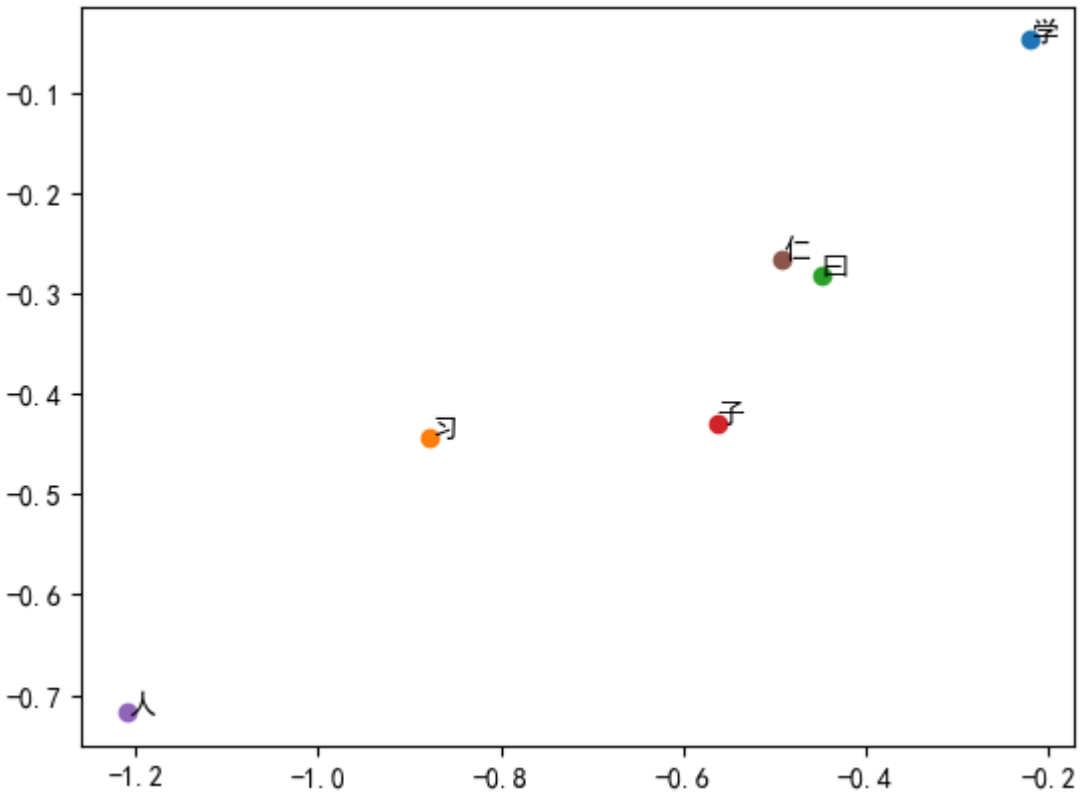
- emb_size:100, k:2, window_size:1



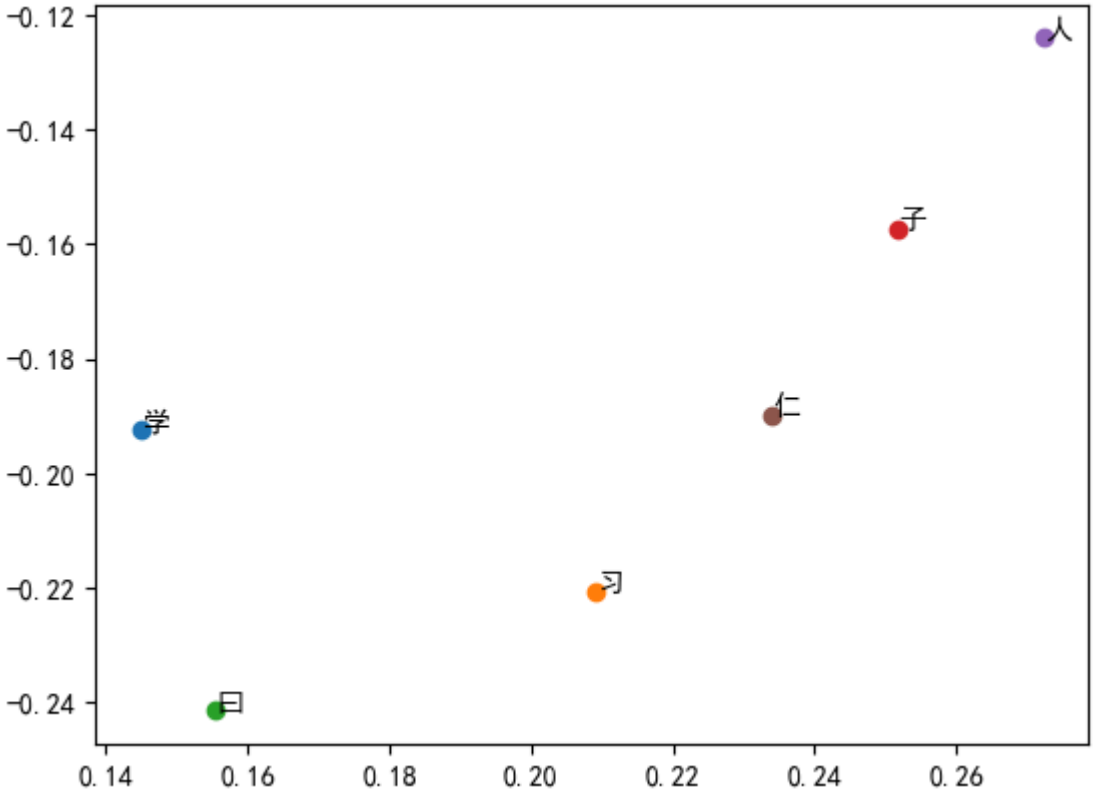
- emb_size:100, k:2, window_size:3



- emb_size:100, k:5, window_size:1

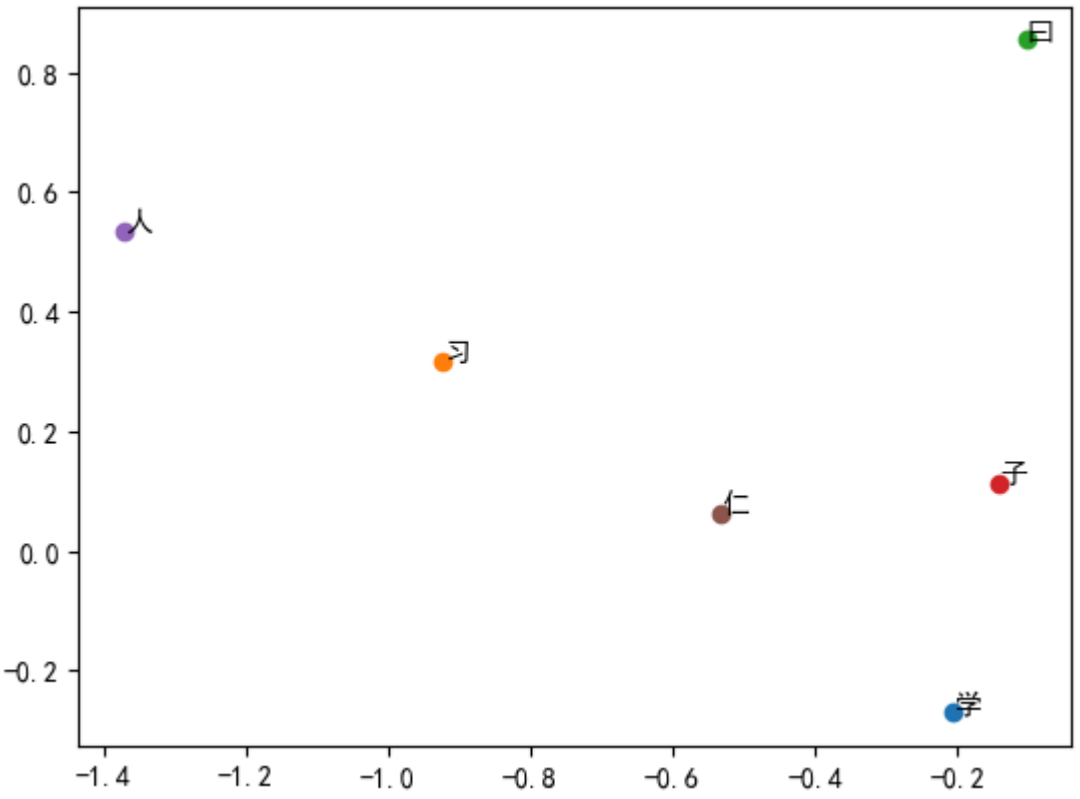


- emb_size:100, k:5, window_size:3

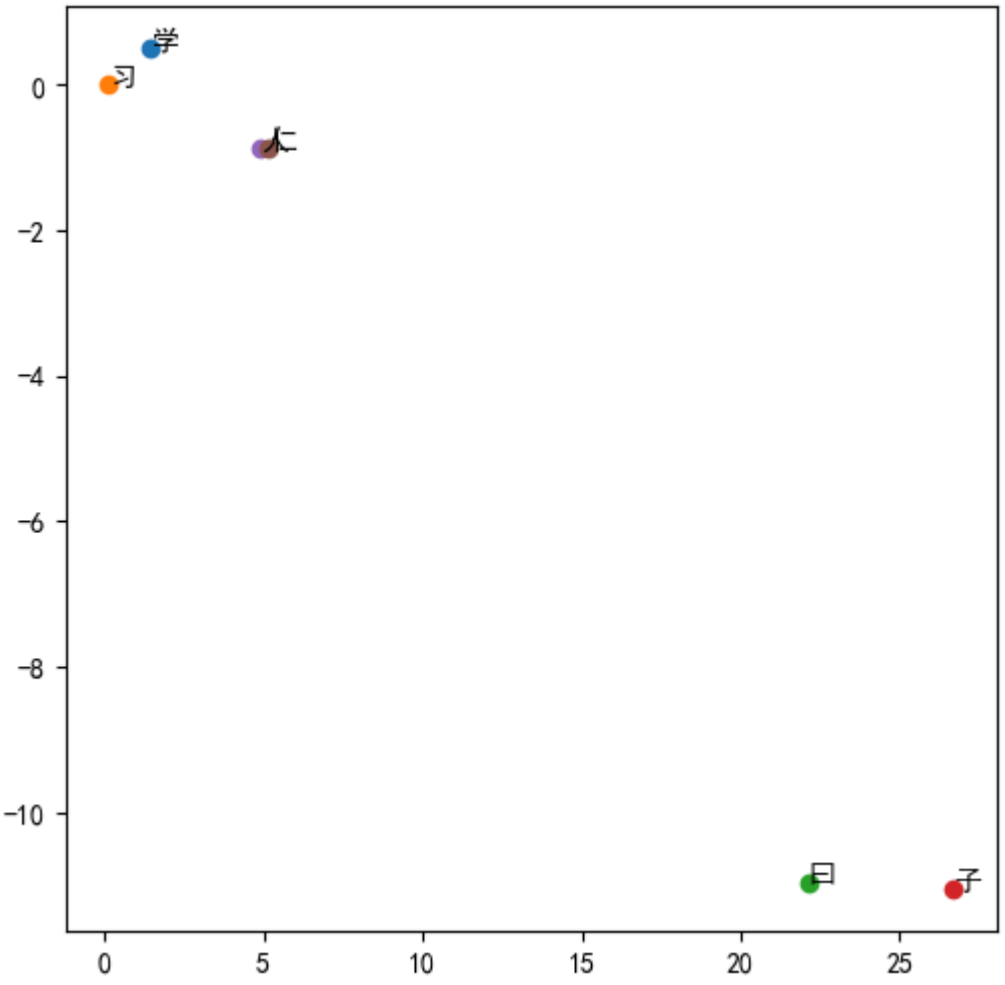


Compare with lab4

The smallest loss occurs when emb_size:100, k:2, window_size:1. The loss is 0.8103.


0.8
0.6
0.4
0.2
0.0
−0.2
−1.4
−1.2
−1.0
−0.8
−0.6
−0.4
−0.2
曰
人
习
子
仁
学

- lab4: LSA


0
−2
−4
−6
−8
−10
0
5
10
15
20
25
学
习
仁
曰
子

- We can see that "曰" is further from other words in the word2vec result. However, in the LSA result, "曰" is closer to other words.
- The word2vec result is more sparse than the LSA result.