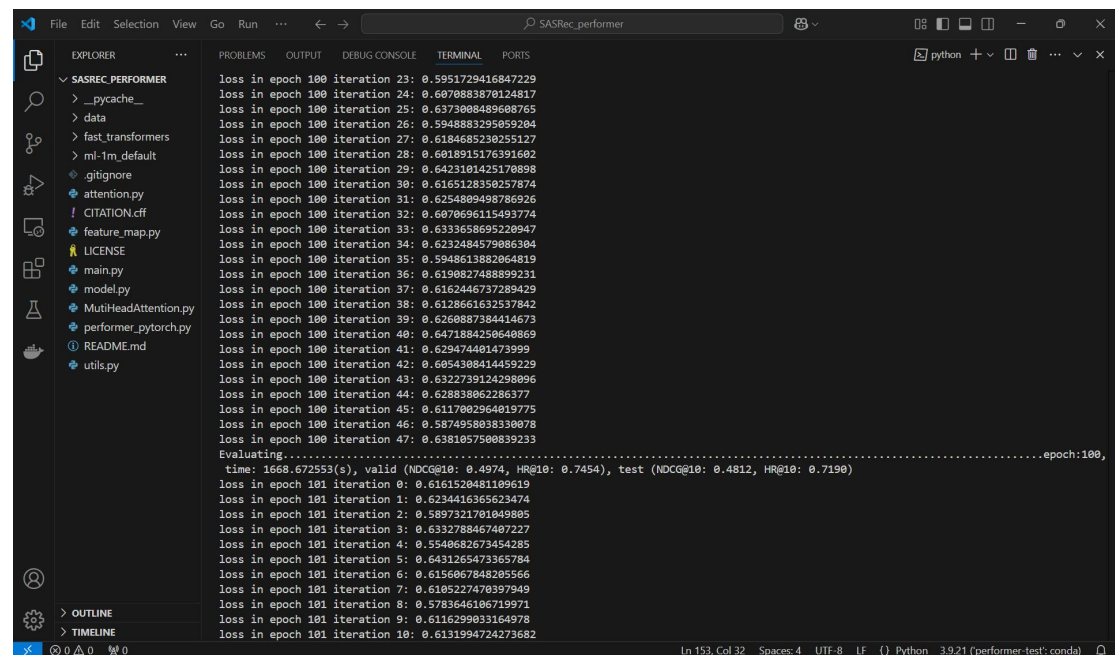


## Performer

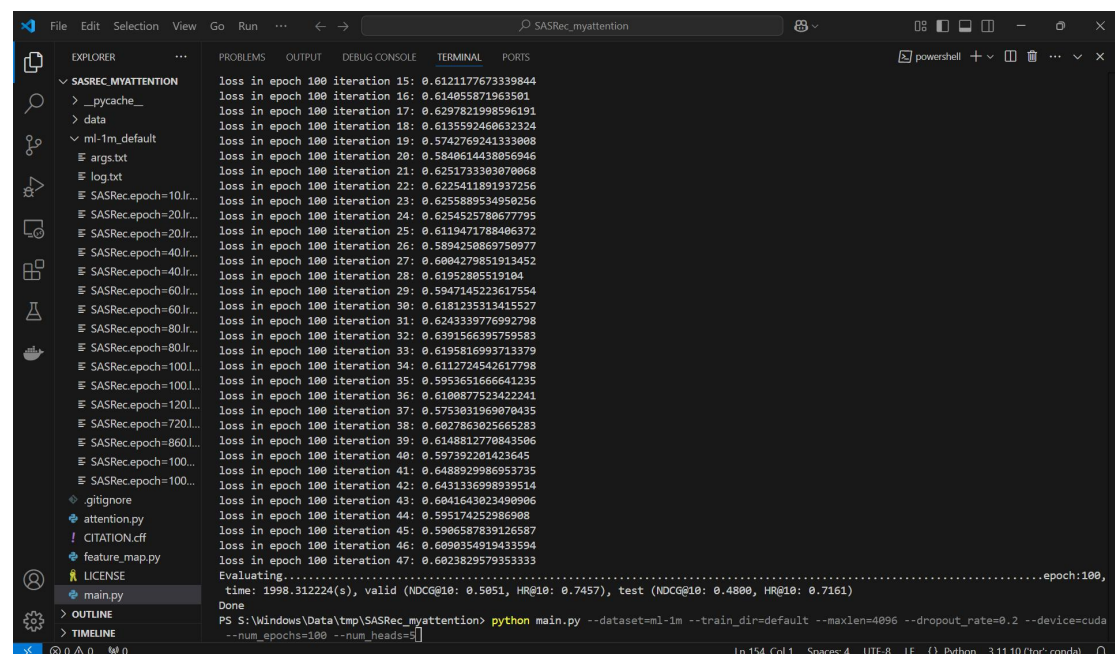
```
python main.py --dataset=ml-1m --train_dir=default --maxlen=4096 --dropout_rate=0.2  
--device=cuda --num_epochs=100 --num_heads=5
```



```
loss in epoch 100 iteration 23: 0.5951729416847229  
loss in epoch 100 iteration 24: 0.6078883870124817  
loss in epoch 100 iteration 25: 0.6373008489608765  
loss in epoch 100 iteration 26: 0.5948883295059204  
loss in epoch 100 iteration 27: 0.6184685230255127  
loss in epoch 100 iteration 28: 0.6018915176391602  
loss in epoch 100 iteration 29: 0.6423181425170898  
loss in epoch 100 iteration 30: 0.6165128350257874  
loss in epoch 100 iteration 31: 0.6254009408786926  
loss in epoch 100 iteration 32: 0.6070696115489374  
loss in epoch 100 iteration 33: 0.6333658695220947  
loss in epoch 100 iteration 34: 0.62324845798086304  
loss in epoch 100 iteration 35: 0.5948613882864819  
loss in epoch 100 iteration 36: 0.6190867488899231  
loss in epoch 100 iteration 37: 0.6162446737289429  
loss in epoch 100 iteration 38: 0.6128661632537842  
loss in epoch 100 iteration 39: 0.6260887384414673  
loss in epoch 100 iteration 40: 0.6471884250640869  
loss in epoch 100 iteration 41: 0.62947440173999  
loss in epoch 100 iteration 42: 0.6054388414459229  
loss in epoch 100 iteration 43: 0.6322739124298096  
loss in epoch 100 iteration 44: 0.628838062286377  
loss in epoch 100 iteration 45: 0.6117002964019775  
loss in epoch 100 iteration 46: 0.5974998039330078  
loss in epoch 100 iteration 47: 0.6381057500839233  
Evaluating.....epoch:100,  
time: 1668.672553(s), valid (NDCG@10: 0.4974, HR@10: 0.7454), test (NDCG@10: 0.4812, HR@10: 0.7190)  
loss in epoch 101 iteration 0: 0.6161520481189619  
loss in epoch 101 iteration 1: 0.6234416365623474  
loss in epoch 101 iteration 2: 0.5897321701049805  
loss in epoch 101 iteration 3: 0.6332788467407227  
loss in epoch 101 iteration 4: 0.5540682673454285  
loss in epoch 101 iteration 5: 0.6431265473365784  
loss in epoch 101 iteration 6: 0.6156067848205566  
loss in epoch 101 iteration 7: 0.6105227470397949  
loss in epoch 101 iteration 8: 0.5783646106719971  
loss in epoch 101 iteration 9: 0.6116299033164978  
loss in epoch 101 iteration 10: 0.6131994724273682
```

## Myattention

```
python main.py --dataset=ml-1m --train_dir=default --maxlen=4096 --dropout_rate=0.2  
--device=cuda --num_epochs=100 --num_heads=5
```



```
loss in epoch 100 iteration 15: 0.6121177673339844  
loss in epoch 100 iteration 16: 0.614055871963501  
loss in epoch 100 iteration 17: 0.6297821998596191  
loss in epoch 100 iteration 18: 0.6135592460632324  
loss in epoch 100 iteration 19: 0.5742769241333008  
loss in epoch 100 iteration 20: 0.5840614438056946  
loss in epoch 100 iteration 21: 0.6251733303070068  
loss in epoch 100 iteration 22: 0.6225411891937256  
loss in epoch 100 iteration 23: 0.6255889534950256  
loss in epoch 100 iteration 24: 0.6254525780677795  
loss in epoch 100 iteration 25: 0.6119471788406372  
loss in epoch 100 iteration 26: 0.5894280809750977  
loss in epoch 100 iteration 27: 0.6004279851913452  
loss in epoch 100 iteration 28: 0.61952805519104  
loss in epoch 100 iteration 29: 0.5947145223617554  
loss in epoch 100 iteration 30: 0.6181235313415527  
loss in epoch 100 iteration 31: 0.6243339776992798  
loss in epoch 100 iteration 32: 0.6391566395759583  
loss in epoch 100 iteration 33: 0.6195816993713379  
loss in epoch 100 iteration 34: 0.6112724542617798  
loss in epoch 100 iteration 35: 0.5953651666641235  
loss in epoch 100 iteration 36: 0.6100877523422241  
loss in epoch 100 iteration 37: 0.5753031960970435  
loss in epoch 100 iteration 38: 0.6027863025665283  
loss in epoch 100 iteration 39: 0.6148812770843506  
loss in epoch 100 iteration 40: 0.597392201423645  
loss in epoch 100 iteration 41: 0.6488929986953735  
loss in epoch 100 iteration 42: 0.6431336909393514  
loss in epoch 100 iteration 43: 0.6041643023490906  
loss in epoch 100 iteration 44: 0.595174252986908  
loss in epoch 100 iteration 45: 0.5906587839126587  
loss in epoch 100 iteration 46: 0.6090354919433594  
loss in epoch 100 iteration 47: 0.6023829579353333  
Evaluating.....epoch:100,  
time: 1998.312224(s), valid (NDCG@10: 0.5051, HR@10: 0.7457), test (NDCG@10: 0.4800, HR@10: 0.7161)  
Done  
PS S:\Windows\Data\tmp\SASRec_myattention> python main.py --dataset=ml-1m --train_dir=default --maxlen=4096 --dropout_rate=0.2 --device=cuda  
--num_epochs=100 --num_heads=5
```

时间 1998->1668

优化了 16.5%，性能几乎不变。