

F1.(WS = 100K)

```
The time elapse of epoch 004 is: 00: 00: 14
HR: 0.423          NDCG: 0.234
Acc at 100 : 0.2205874870681614
Acc at 200 : 0.348623289181351
Acc at 300 : 0.451018011295219
Acc at 400 : 0.5266056679612638
Acc at 500 : 0.5920259315163747
Epoch # 5
```

F2.(WS = 50K)

```
The time elapse of epoch 002 is: 00: 00: 12
HR: 0.400          NDCG: 0.213
Acc at 100 : 0.21595770781899315
Acc at 200 : 0.33878981184733103
Acc at 300 : 0.4335638599665711
Acc at 400 : 0.5131626362841765
Acc at 500 : 0.5806319292165673
Epoch # 3
```

F3.(WS = 250K)

```
100%|
The time elapse of epoch 003 is: 00: 00: 11
HR: 0.405          NDCG: 0.215
Acc at 100 : 0.2160554644012697
Acc at 200 : 0.3403558339594866
Acc at 300 : 0.43692016929139893
Acc at 400 : 0.514860917301765
Acc at 500 : 0.5841243310382899
Epoch # 4
```

F4.(Threshold=0)

```
100%|
The time elapse of epoch 003 is: 00: 01: 34
HR: 0.620          NDCG: 0.373
Acc at 100 : 0.1828261181903357
Acc at 200 : 0.32430403364031335
Acc at 300 : 0.4245430207074908
Acc at 400 : 0.5001446873438035
Acc at 500 : 0.5697200755207227
Epoch # 4
```

F5.(Threshold=3)

```
The time elapse of epoch 002 is: 00: 01: 37
HR: 0.567          NDCG: 0.330
Acc at 100 : 0.1477006709141809
Acc at 200 : 0.26178926537310554
Acc at 300 : 0.35121030022202915
Acc at 400 : 0.4304680712423979
Acc at 500 : 0.4983196978472826
Epoch # 3
```

F6.(Threshold=4)

```
The time elapse of epoch 006 is: 00: 01: 31
HR: 0.603          NDCG: 0.360
Acc at 100 : 0.2230001115697869
Acc at 200 : 0.3613605935512663
Acc at 300 : 0.46082505857413814
Acc at 400 : 0.5459946446502287
Acc at 500 : 0.6110816690840121
Epoch # 7
```

F7.(two-stage-cache)

9766/9766 [00:57&lt;00:00, 169.70it/s]

**The time elapse of epoch 005 is: 00: 01: 03**

**HR: 0.588**      **NDCG: 0.340****Epoch # 6**

100%|