

Python大数据分析

九、高级子查询

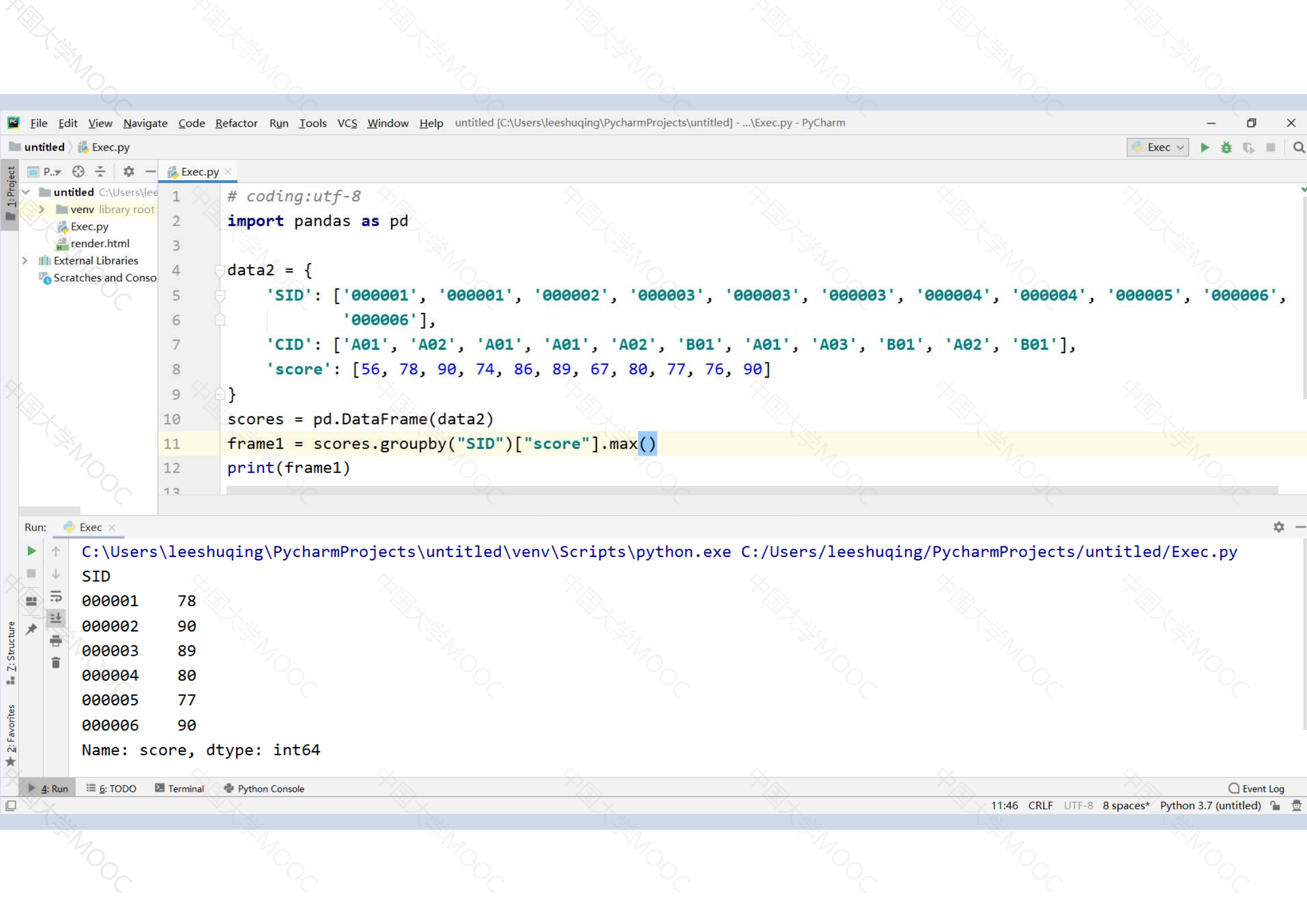
查询每个学生成绩最高的课程号

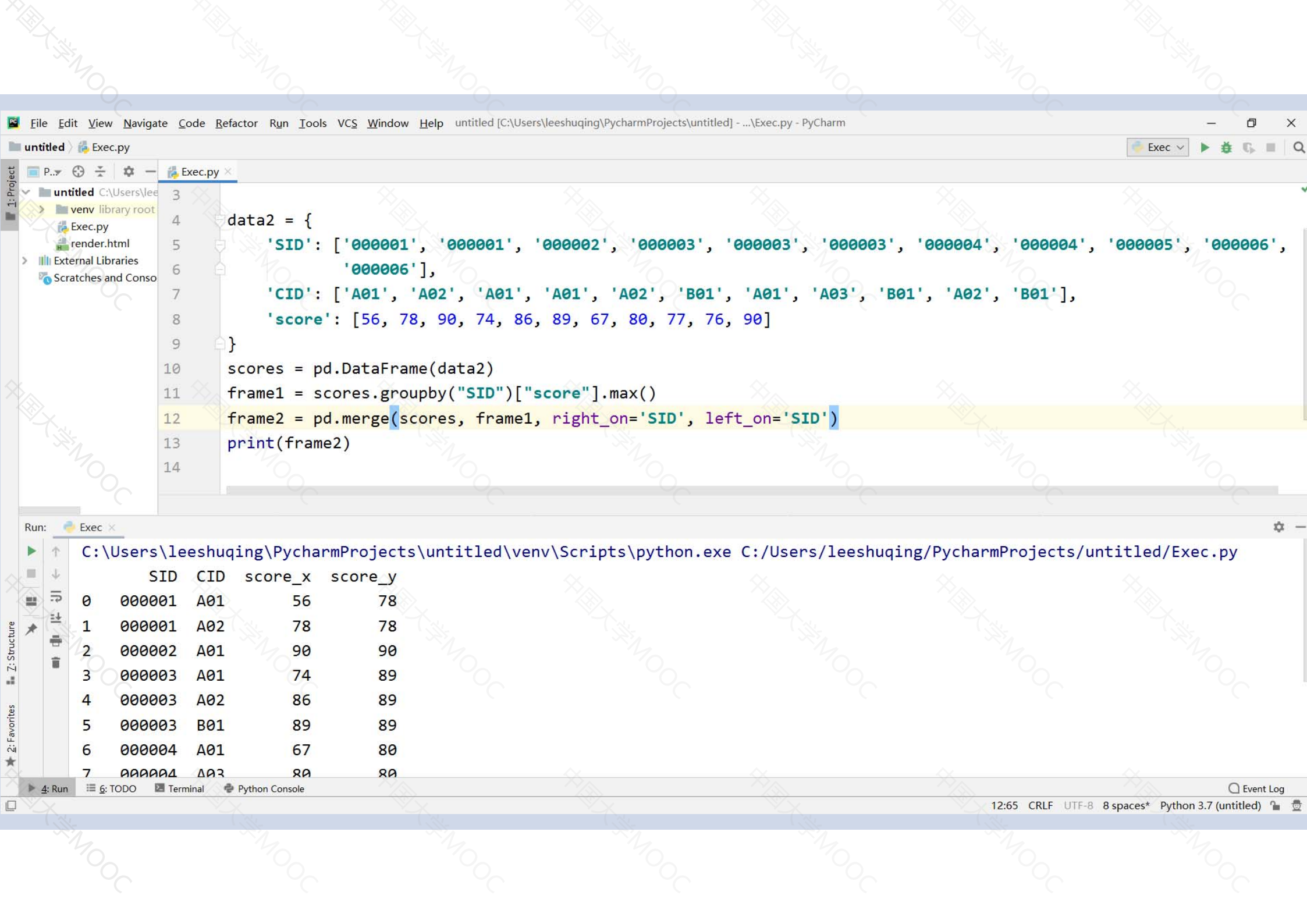


查询对应的课程号



查询学生的最高成绩

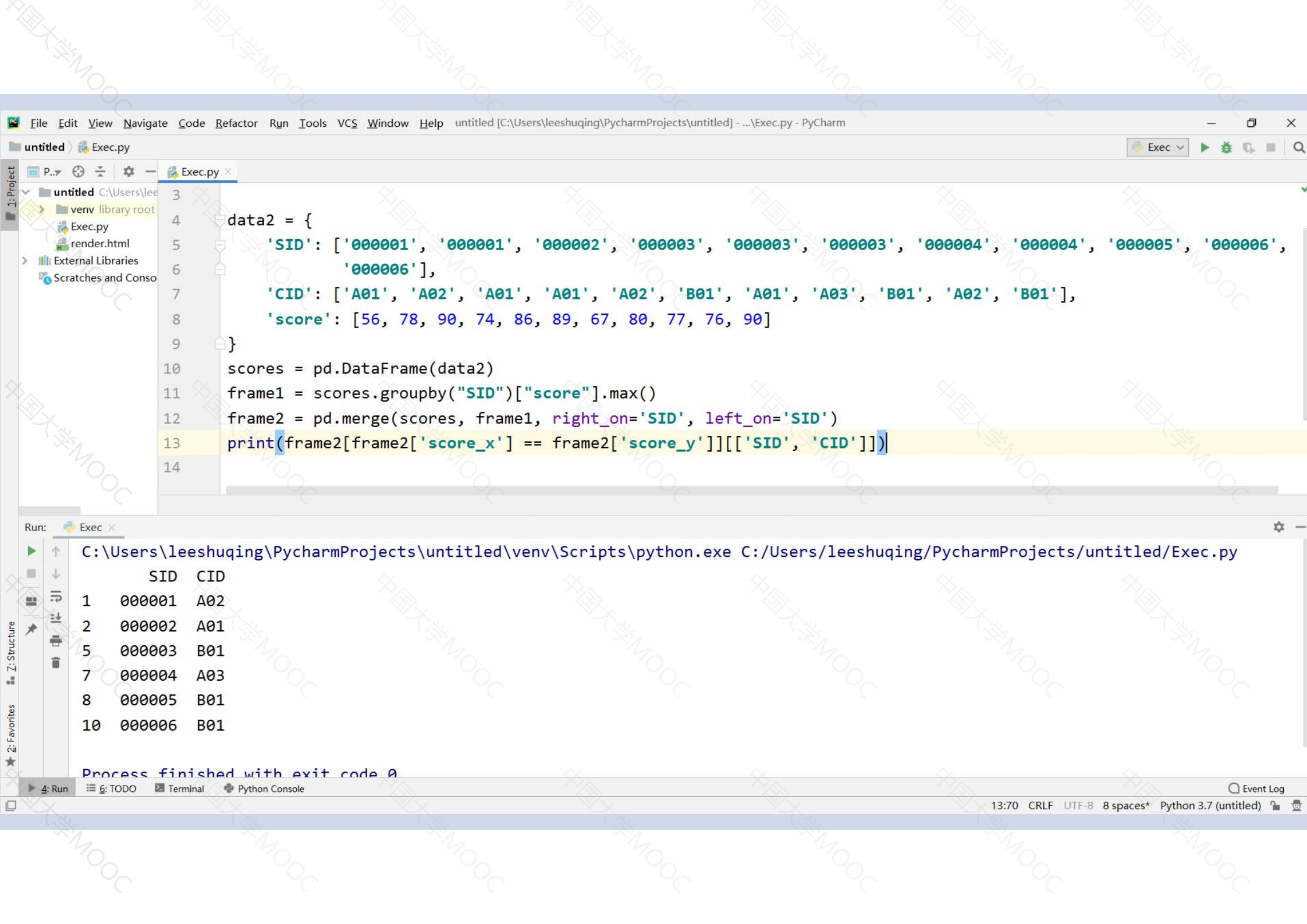


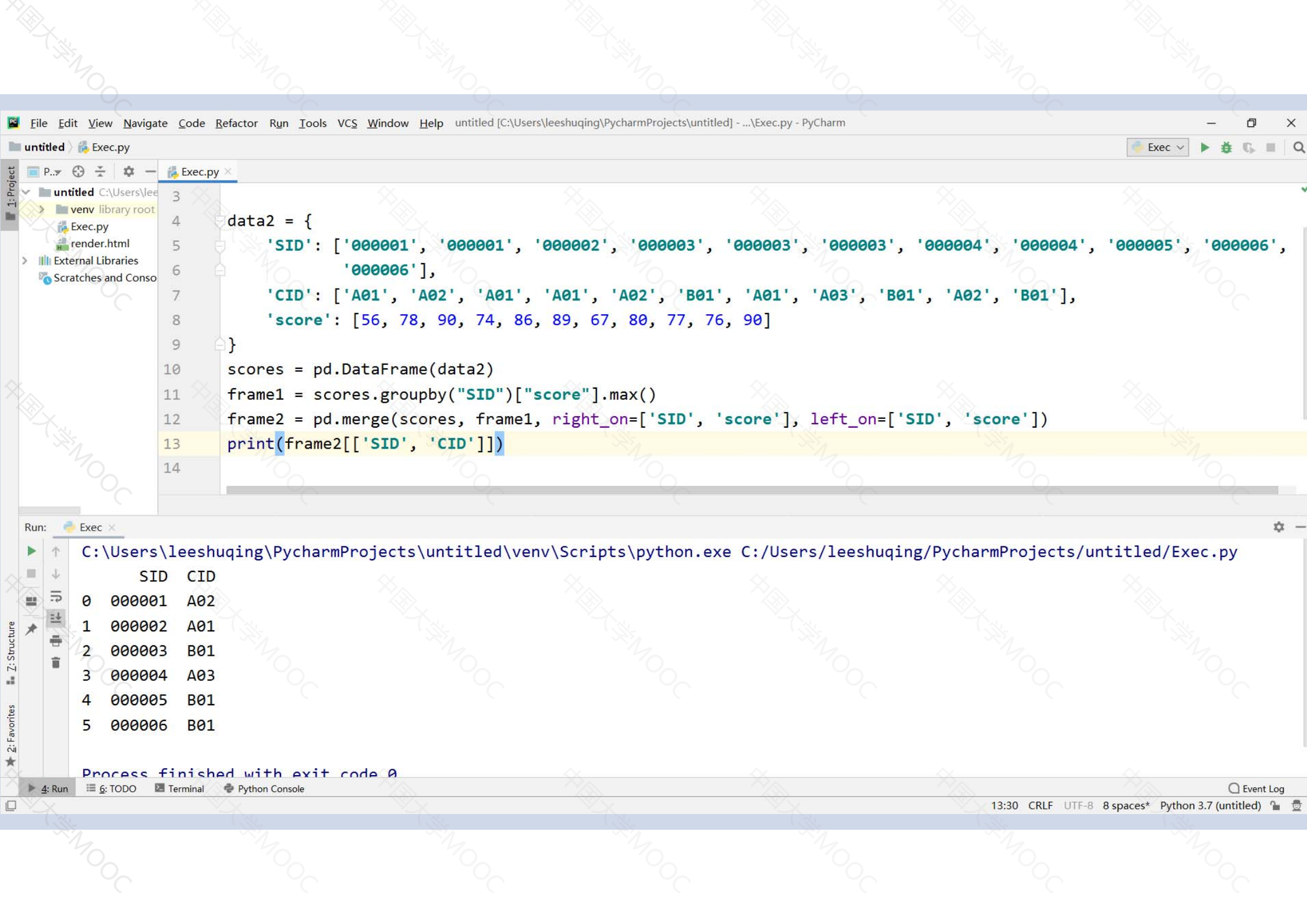


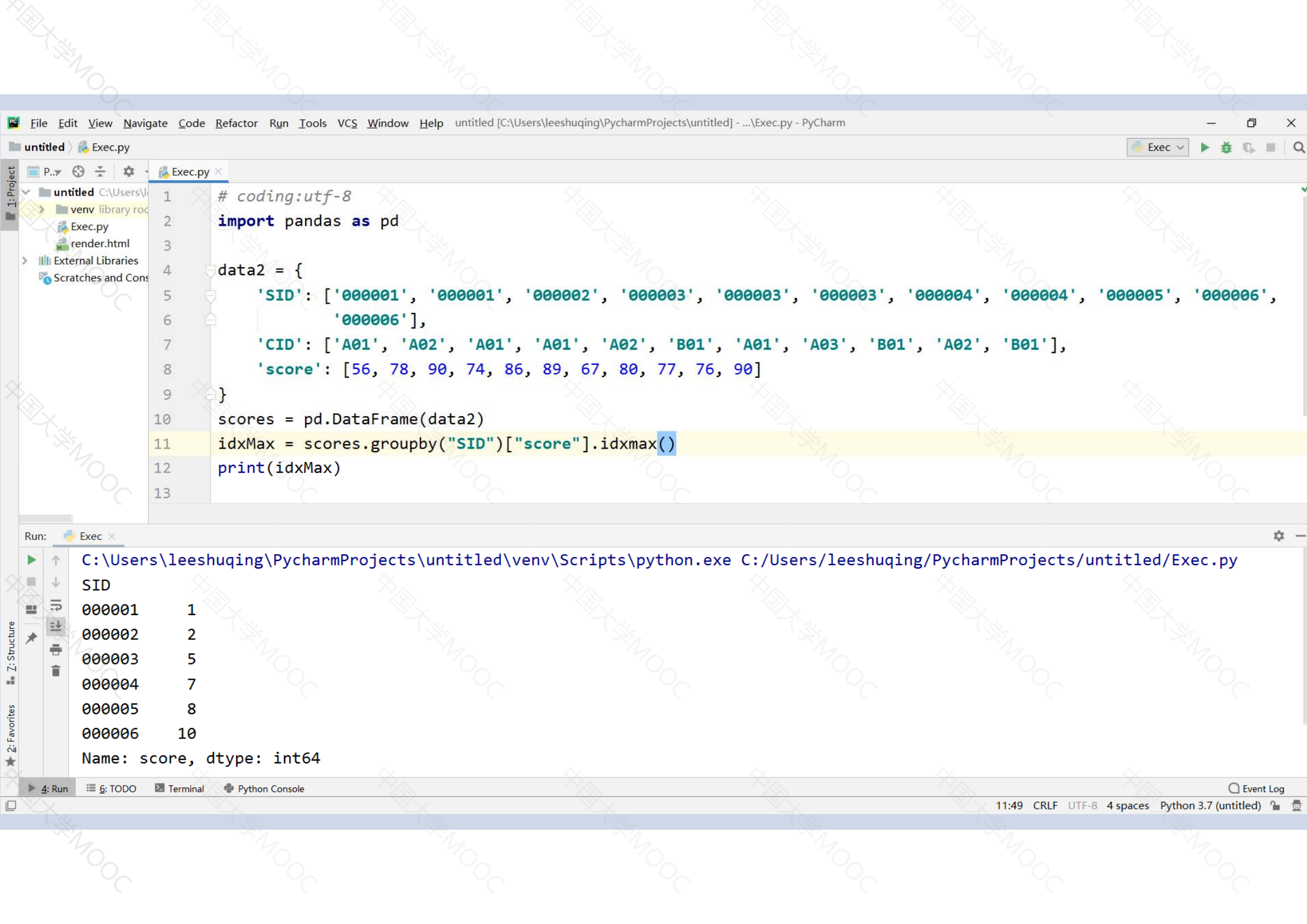
```
3
4 data2 = {
5     'SID': ['000001', '000001', '000002', '000003', '000003', '000003', '000004', '000004', '000005', '000006',
6            '000006'],
7     'CID': ['A01', 'A02', 'A01', 'A01', 'A02', 'B01', 'A01', 'A03', 'B01', 'A02', 'B01'],
8     'score': [56, 78, 90, 74, 86, 89, 67, 80, 77, 76, 90]
9 }
10 scores = pd.DataFrame(data2)
11 frame1 = scores.groupby("SID")["score"].max()
12 frame2 = pd.merge(scores, frame1, right_on='SID', left_on='SID')
13 print(frame2)
14
```

```
C:\Users\leeshuqing\PycharmProjects\untitled\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/untitled/Exec.py
```

	SID	CID	score_x	score_y
0	000001	A01	56	78
1	000001	A02	78	78
2	000002	A01	90	90
3	000003	A01	74	89
4	000003	A02	86	89
5	000003	B01	89	89
6	000004	A01	67	80
7	000004	A03	80	80







```
# coding:utf-8
import pandas as pd

data2 = {
    'SID': ['000001', '000001', '000002', '000003', '000003', '000003', '000004', '000004', '000005', '000006',
            '000006'],
    'CID': ['A01', 'A02', 'A01', 'A01', 'A02', 'B01', 'A01', 'A03', 'B01', 'A02', 'B01'],
    'score': [56, 78, 90, 74, 86, 89, 67, 80, 77, 76, 90]
}

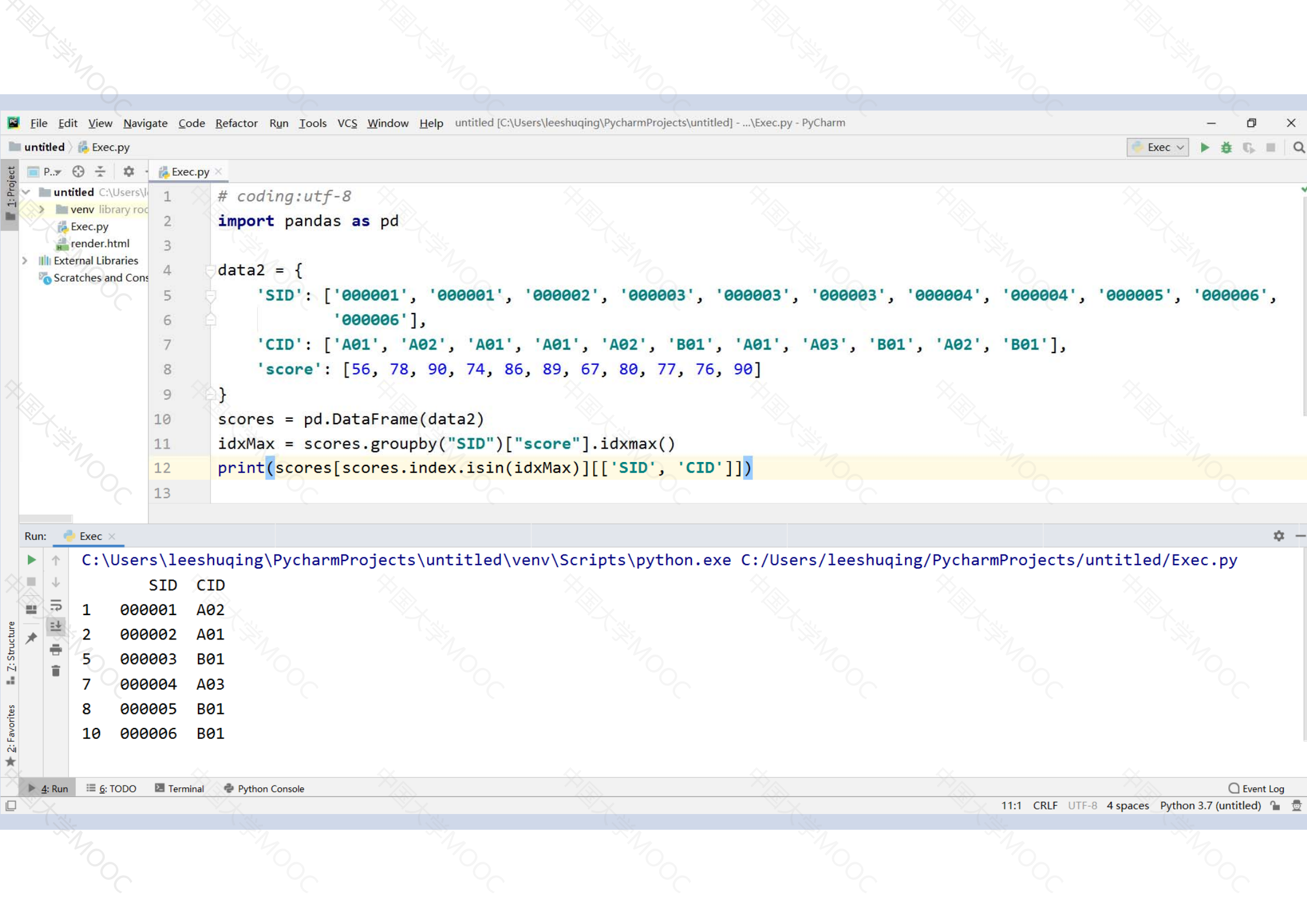
scores = pd.DataFrame(data2)
idxMax = scores.groupby("SID")["score"].idxmax()
print(idxMax)
```

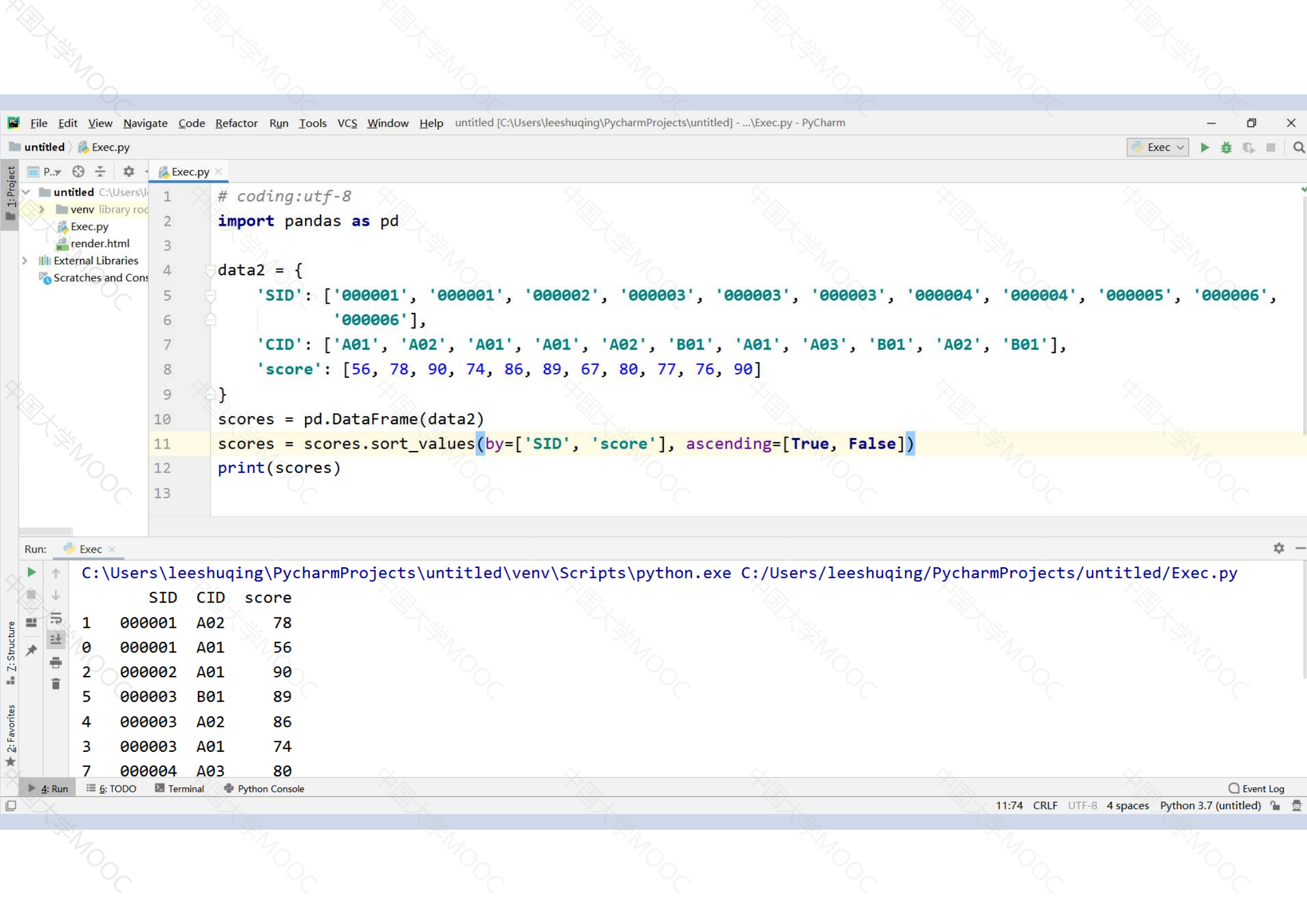
```
Run: Exec x
C:/Users/leeshuqing/PycharmProjects/untitled/venv/Scripts/python.exe C:/Users/leeshuqing/PycharmProjects/untitled/Exec.py
SID
000001    1
000002    2
000003    5
000004    7
000005    8
000006   10
Name: score, dtype: int64
```

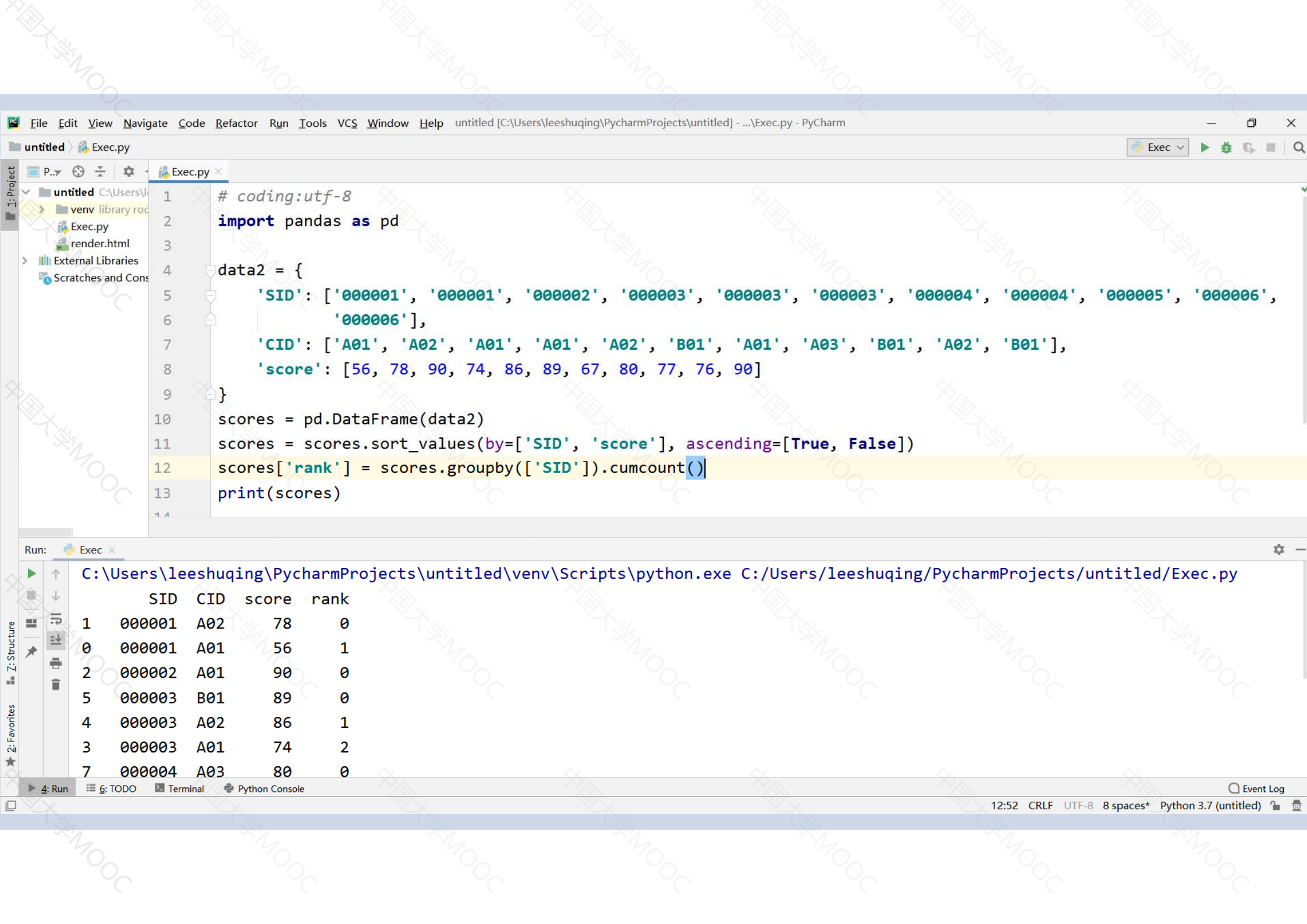
4: Run | TODO | Terminal | Python Console

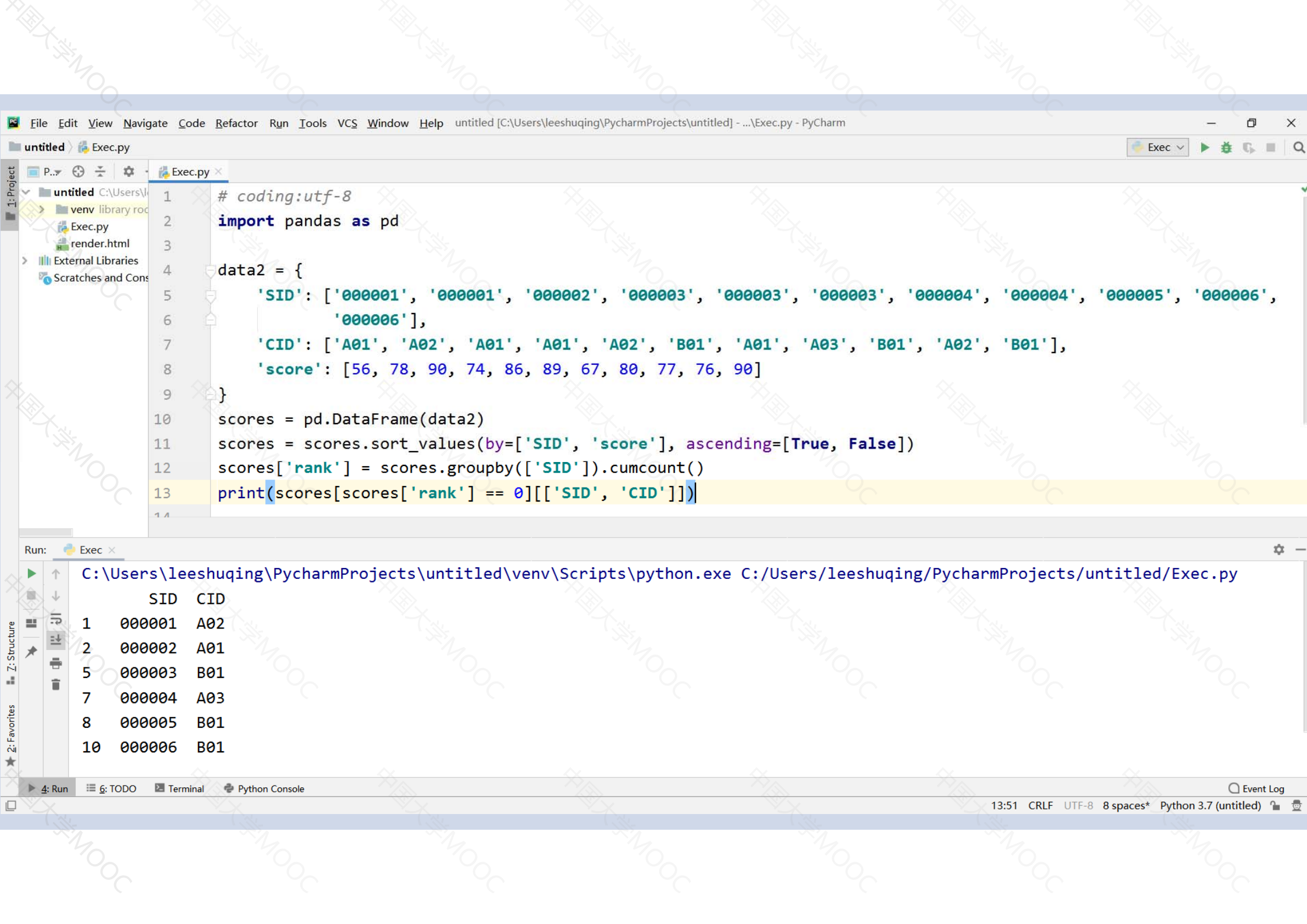
Event Log

11:49 CRLF UTF-8 4 spaces Python 3.7 (untitled)

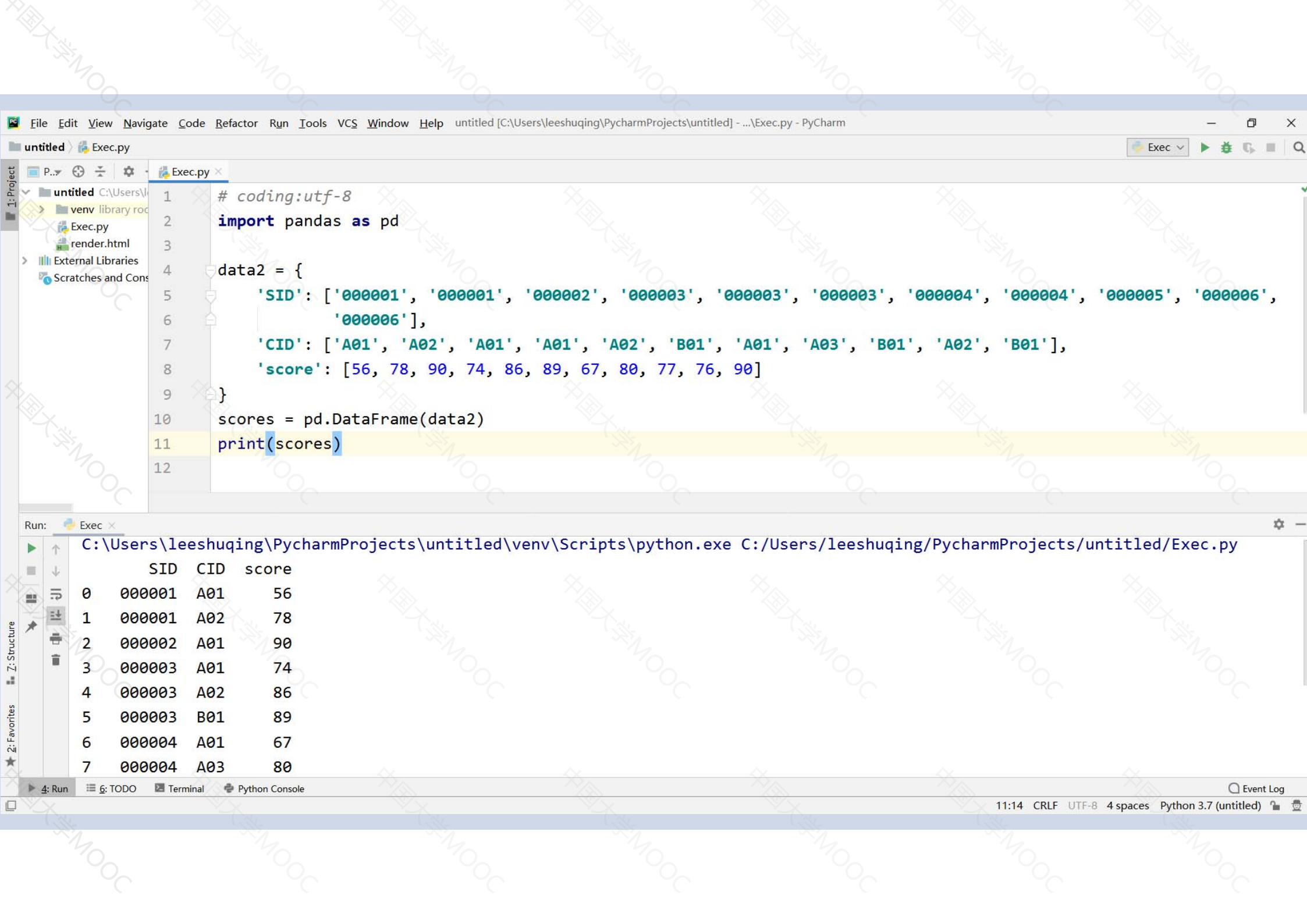








**查询选修了A01课程的学生
A02课程成绩为多少?**



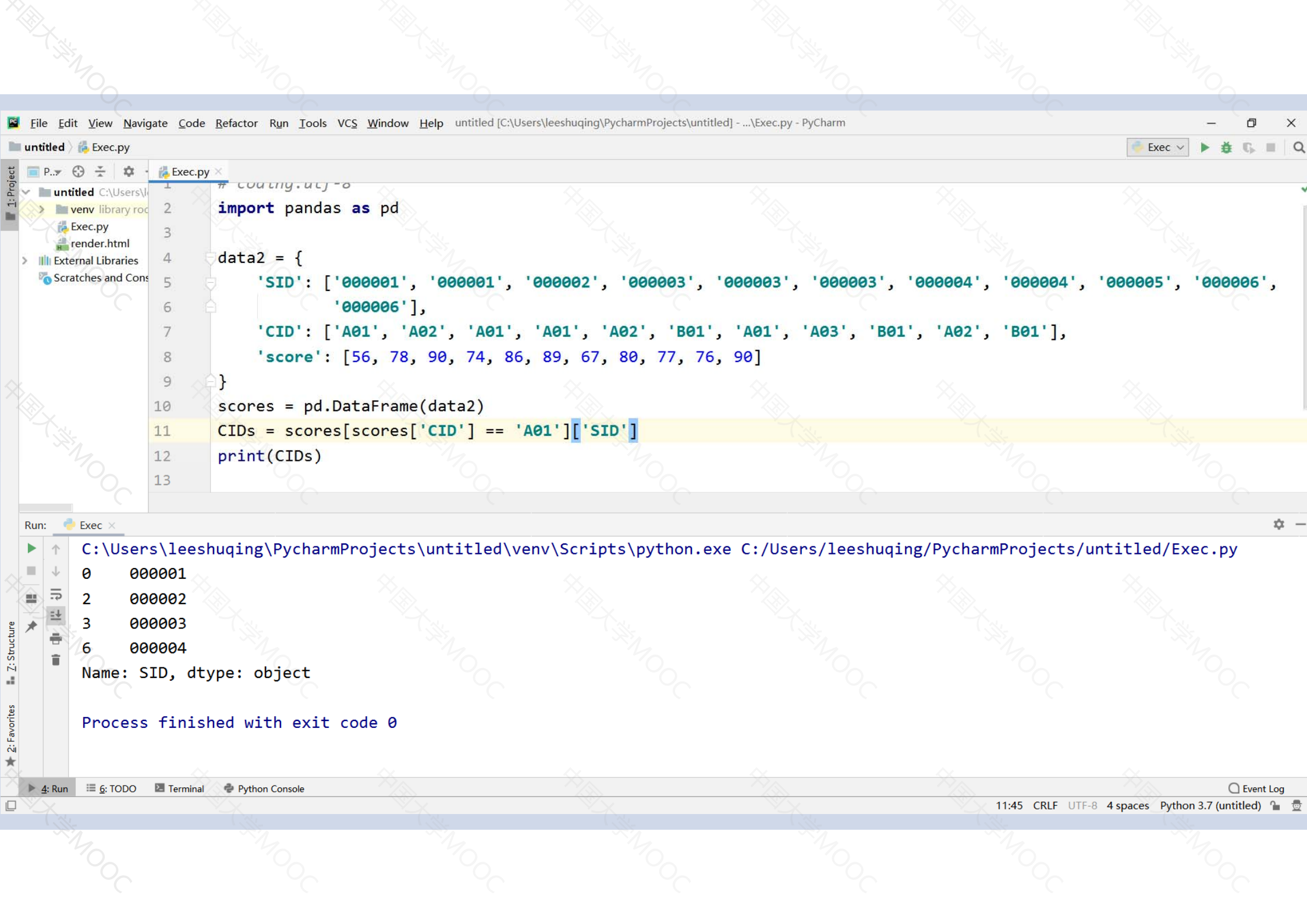
```
# coding:utf-8
import pandas as pd

data2 = {
    'SID': ['000001', '000001', '000002', '000003', '000003', '000003', '000004', '000004', '000005', '000006',
            '000006'],
    'CID': ['A01', 'A02', 'A01', 'A01', 'A02', 'B01', 'A01', 'A03', 'B01', 'A02', 'B01'],
    'score': [56, 78, 90, 74, 86, 89, 67, 80, 77, 76, 90]
}

scores = pd.DataFrame(data2)
print(scores)
```

C:/Users/leeshuqing/PycharmProjects/untitled/venv/Scripts/python.exe C:/Users/leeshuqing/PycharmProjects/untitled/Exec.py

	SID	CID	score
0	000001	A01	56
1	000001	A02	78
2	000002	A01	90
3	000003	A01	74
4	000003	A02	86
5	000003	B01	89
6	000004	A01	67
7	000004	A03	80

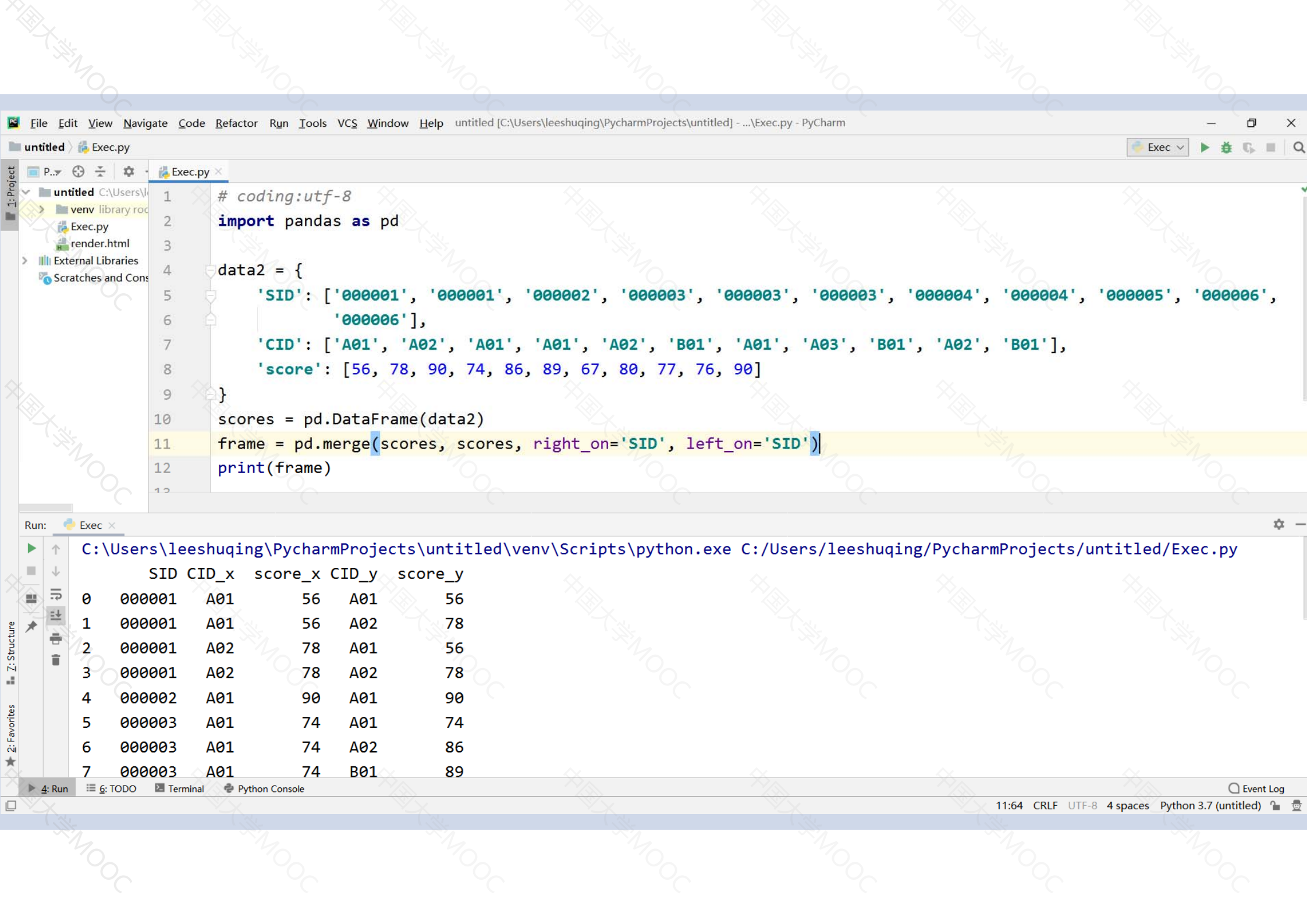


```
1 # coding: utf-8
2 import pandas as pd
3
4 data2 = {
5     'SID': ['000001', '000001', '000002', '000003', '000003', '000003', '000004', '000004', '000005', '000006',
6            '000006'],
7     'CID': ['A01', 'A02', 'A01', 'A01', 'A02', 'B01', 'A01', 'A03', 'B01', 'A02', 'B01'],
8     'score': [56, 78, 90, 74, 86, 89, 67, 80, 77, 76, 90]
9 }
10 scores = pd.DataFrame(data2)
11 CIDs = scores[scores['CID'] == 'A01']['SID']
12 print(CIDs)
13
```

```
C:\Users\leeshuqing\PycharmProjects\untitled\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/untitled/Exec.py
0    000001
2    000002
3    000003
6    000004
Name: SID, dtype: object

Process finished with exit code 0
```





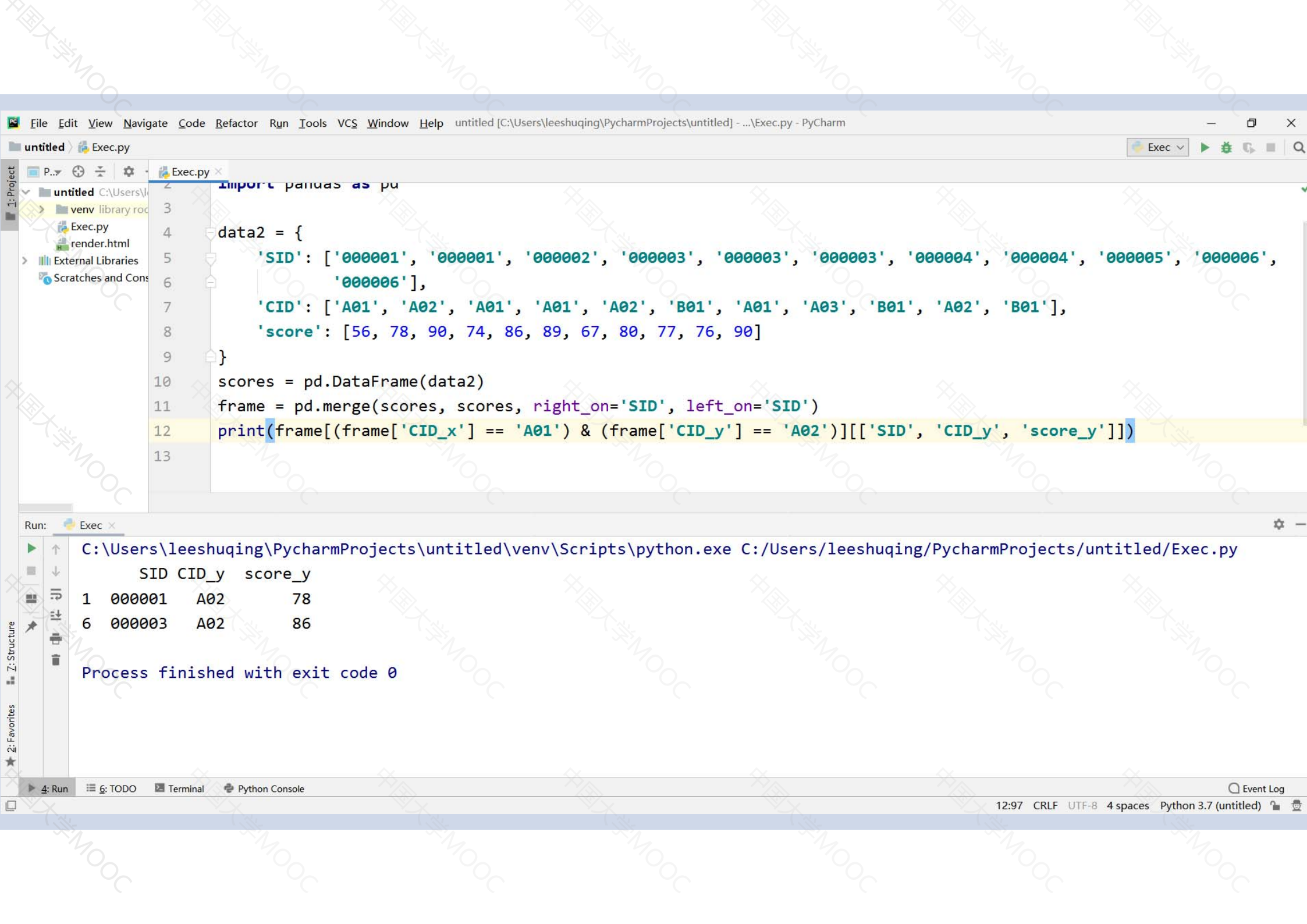
```
# coding:utf-8
import pandas as pd

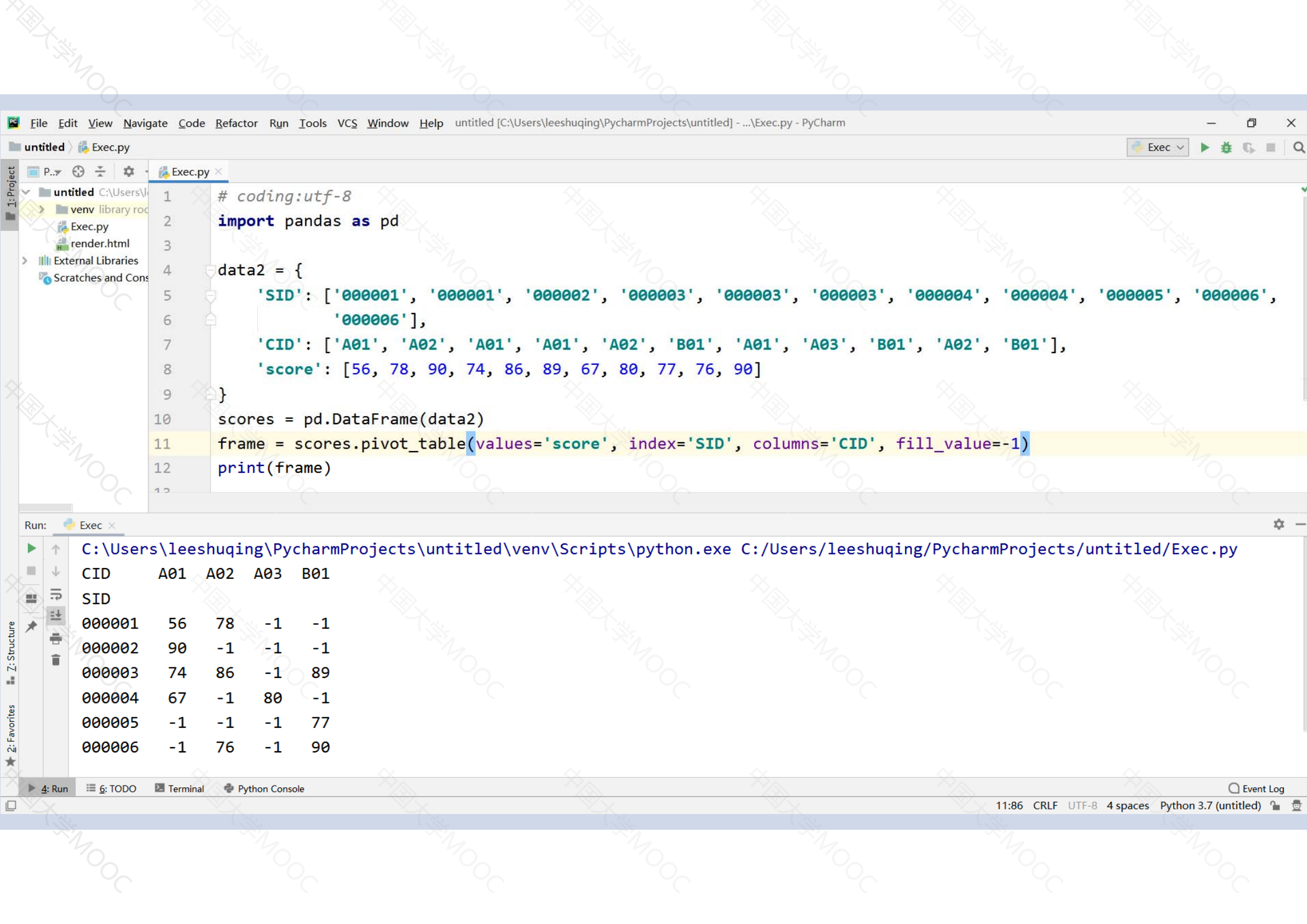
data2 = {
    'SID': ['000001', '000001', '000002', '000003', '000003', '000003', '000004', '000004', '000005', '000006',
           '000006'],
    'CID': ['A01', 'A02', 'A01', 'A01', 'A02', 'B01', 'A01', 'A03', 'B01', 'A02', 'B01'],
    'score': [56, 78, 90, 74, 86, 89, 67, 80, 77, 76, 90]
}

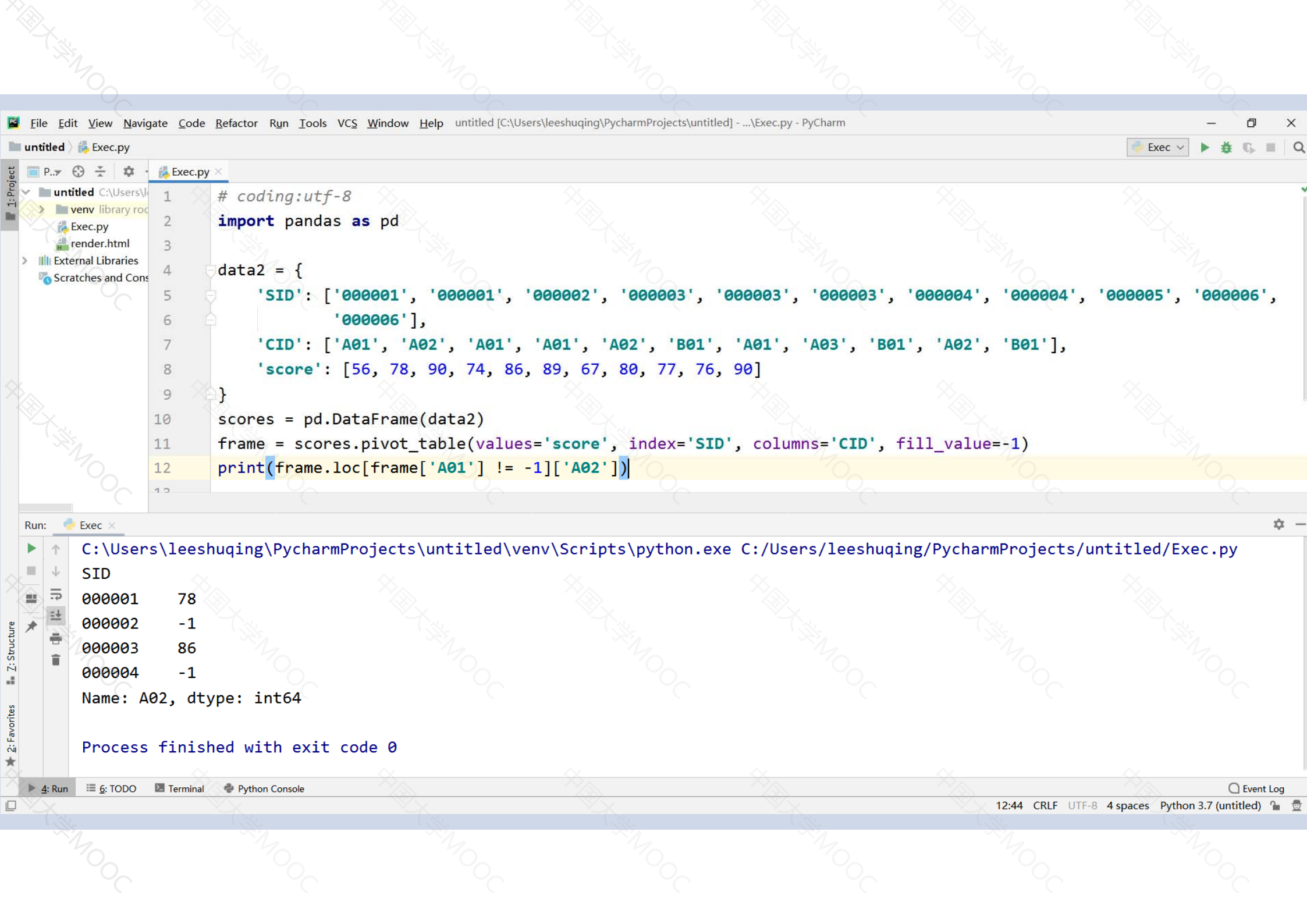
scores = pd.DataFrame(data2)
frame = pd.merge(scores, scores, right_on='SID', left_on='SID')
print(frame)
```

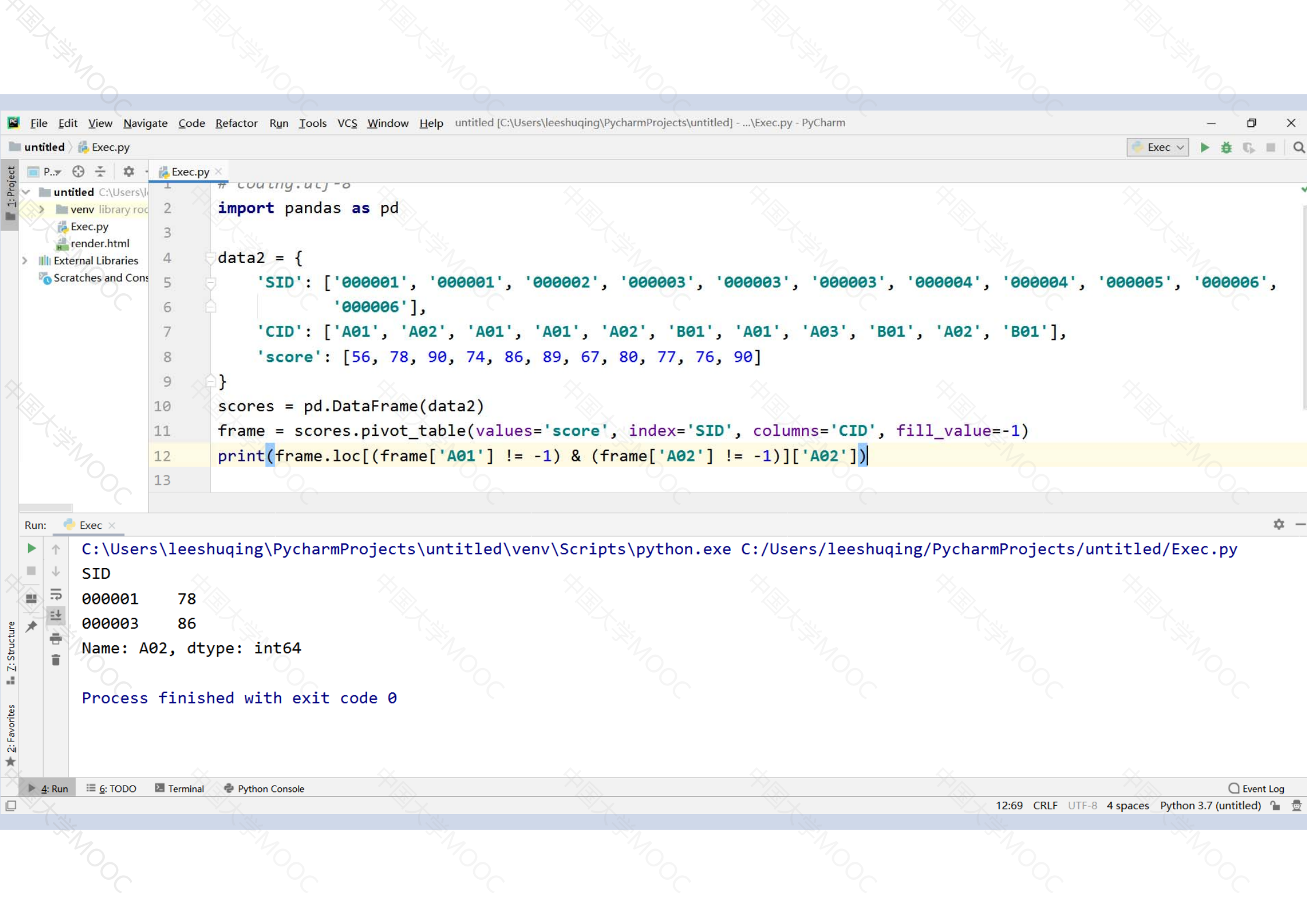
C:\Users\leeshuqing\PycharmProjects\untitled\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/untitled/Exec.py

	SID	CID_x	score_x	CID_y	score_y
0	000001	A01	56	A01	56
1	000001	A01	56	A02	78
2	000001	A02	78	A01	56
3	000001	A02	78	A02	78
4	000002	A01	90	A01	90
5	000003	A01	74	A01	74
6	000003	A01	74	A02	86
7	000003	A01	74	B01	89









一次不学多，下次再学