Python大数据分析

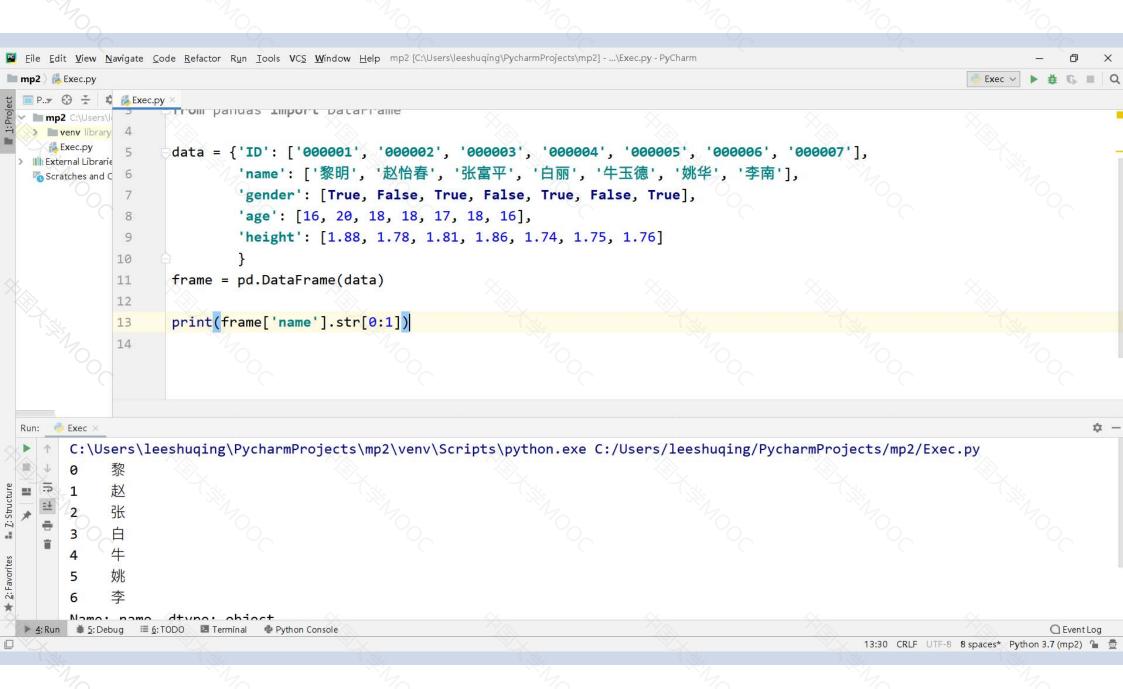
三、数据的显示

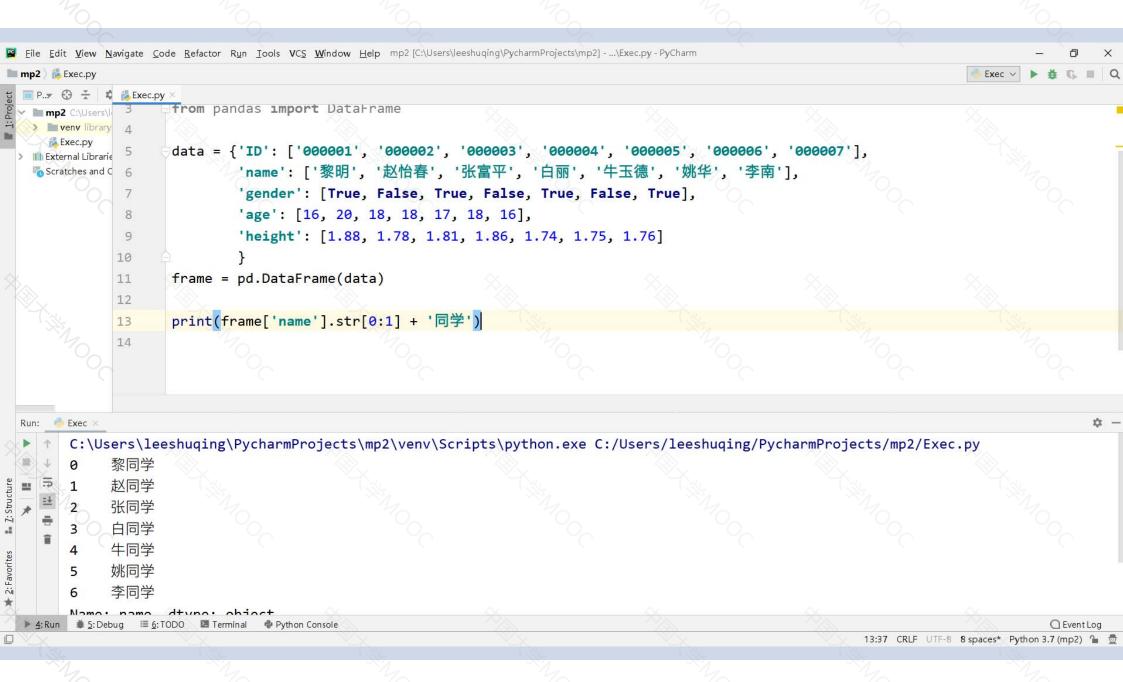
```
🖺 File Edit View Navigate Code Refactor Run Jools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
     .y ⊕ 😤 🕏 Exec.py ×
                      trom pandas import DataFrame
   mp2 C:\Users\l
     venv library
     Exec.py
                      data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
   III External Librarie
                               'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
   Scratches and C 6
                               'gender': [True, False, True, False, True, False, True],
                               'age': [16, 20, 18, 18, 17, 18, 16],
                8
                               'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
                9
               10
                      frame = pd.DataFrame(data)
               11
               12
                      print(frame)
        Exec >
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
                ID name gender age height
                      黎明
            000001
                              True
                                      16
                                             1.88
            000002
                    赵怡春
                              False
                                       20
                                              1.78
           000003
                    张富平
                               True
                                       18
                                              1.81
                      白丽
            000004
                             False
                                      18
                                             1.86
                     牛玉德
            000005
                               True
                                              1.74
                                       17
                      姚华
            000006
                             False
                                      18
                                             1.75
                      本击
                              Thua
                                             1 76
         ≣ 6: TODO ■ Terminal
                          Python Console
                                                                                                                                               C Event Log
                                                                                                                     13:13 CRLF UTF-8 8 spaces* Python 3.7 (mp2) 🦫 💆
```

```
🔟 File Edit View Navigate Code Refactor Run Iools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
    P..y 🕀 🛨 🗯 🐔 Exec.py
                     from pandas import DataFrame
   mp2 C:\Users\l 3
   > library
     Exec.py
  IIII External Librarie 5
                     data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
   Scratches and C
                             'name': ['黎明','赵怡春','张富平','白丽','牛玉德','姚华','李南'],
                              'gender': [True, False, True, False, True, False, True],
                             'age': [16, 20, 18, 18, 17, 18, 16],
                             'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
              10
                     frame = pd.DataFrame(data)
              11
              12
                     frame.columns = ['学号', '姓名', '性别', '年龄', '身高']
              13
                     print(frame)
       Exec >
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
               学号
                      姓名
                               性别 年龄
                                             身高
                    黎明
           000001
                           True 16 1.88
           000002
                   赵怡春
                           False 20 1.78
                   张富平
           000003
                            True 18 1.81
                    白丽
                          False 18 1.86
           000004
                   牛玉德
           000005
                            True 17 1.74
           000006
                    姚华
                          False 18 1.75
                    本击
                           Thus 16 1 76
           AAAAAT
        ≡ 6:TODO ► Terminal
                                                                                                              13:47 CRLF UTF-8 8 spaces* Python 3.7 (mp2) 🦫 👨
```

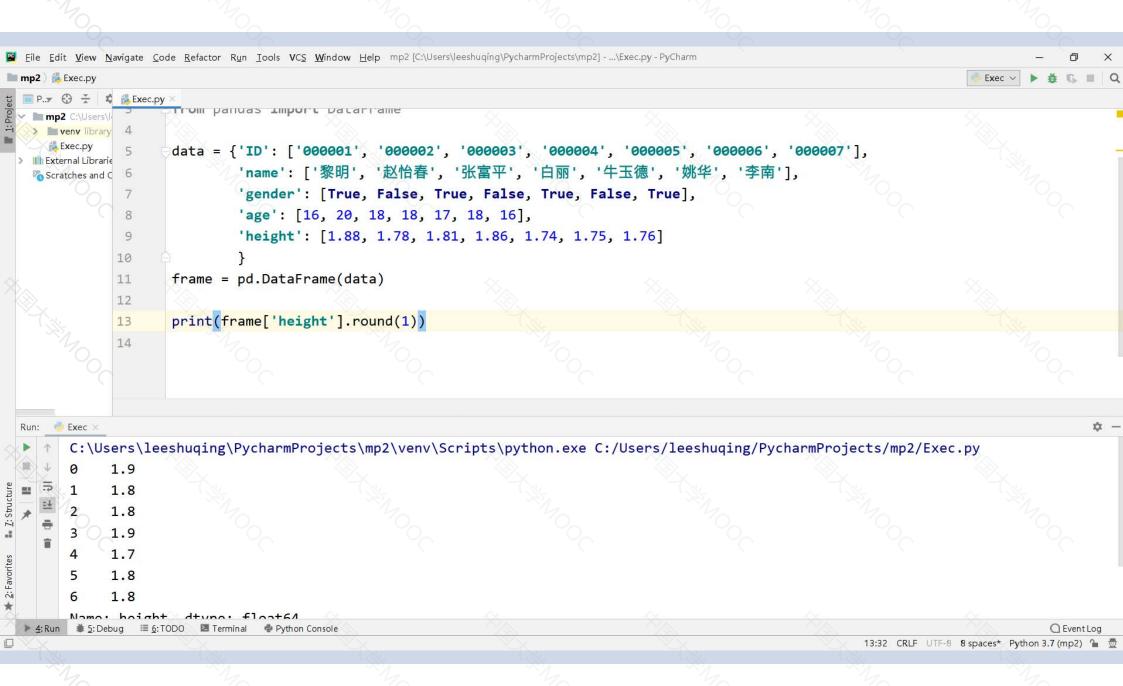
```
🔟 File Edit View Navigate Code Refactor Run Iools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
    P..y 🕀 🛨 🗯 🐔 Exec.py
                     from pandas import DataFrame
   mp2 C:\Users\l 3
   > library
     Exec.py
   IIII External Librarie 5
                     data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
   Scratches and C
                              'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
                              'gender': [True, False, True, False, True, False, True],
                              'age': [16, 20, 18, 18, 17, 18, 16],
               8
                              'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
              10
                     frame = pd.DataFrame(data)
              11
              12
                     print(frame.rename(columns={'ID': '学号', 'name': '姓名', 'gender': '性别'}))
       Exec >
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
                      姓名
                                性别 age height
                学号
                     黎明
           000001
                            True
                                   16
                                          1.88
           000002
                    赵怡春
                            False
                                    20
                                           1.78
                    张富平
           000003
                             True
                                    18
                                           1.81
                     白丽
           000004
                           False
                                    18
                                          1.86
                    牛玉德
           000005
                             True
                                    17
                                           1.74
                     姚华
           000006
                           False
                                    18
                                          1.75
                     本击
                                          1 76
           000007
                            Thun
         I 6: TODO
                 ☑ Terminal
                                                                                                                 13:72 CRLF UTF-8 8 spaces* Python 3.7 (mp2) 🦫 💆
```

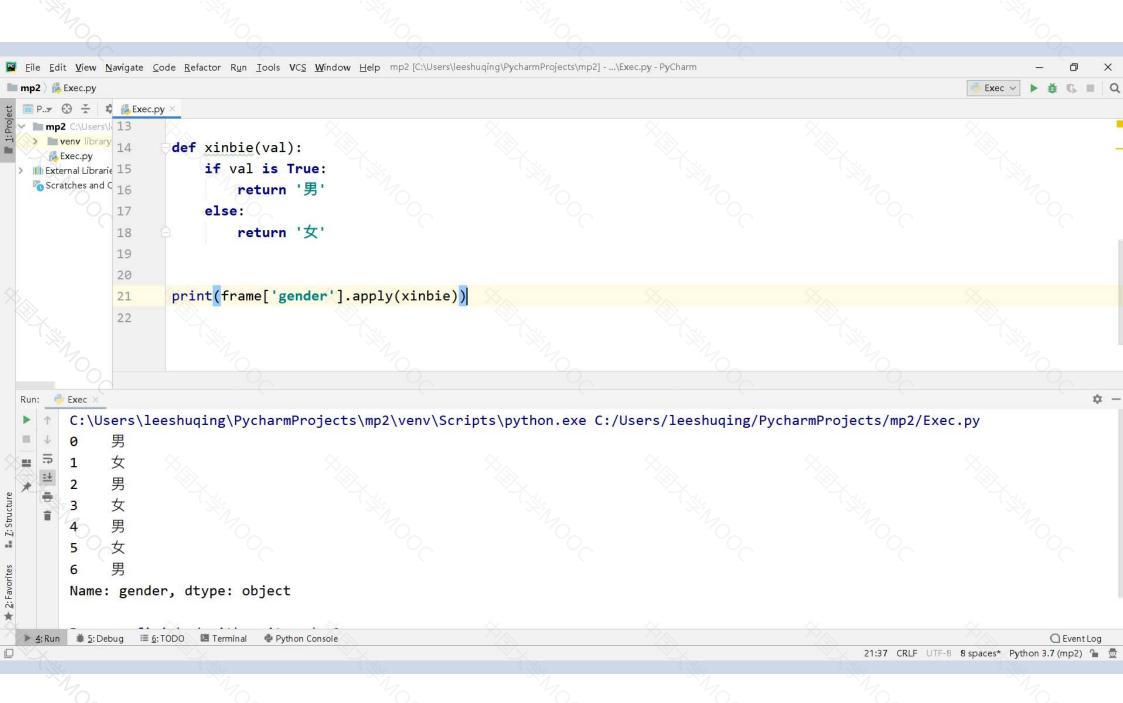
```
📴 <u>F</u>ile <u>E</u>dit <u>V</u>iew <u>N</u>avigate <u>C</u>ode <u>R</u>efactor R<u>u</u>n <u>I</u>ools VC<u>S</u> <u>W</u>indow <u>H</u>elp mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
mp2 \ Exec.py
    P. # @ *
             Exec.py
                      trom pandas import DataFrame
   mp2 C:\Users\l
   > le venv library 4
     Exec.pv
                      data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
  External Librarie
                               'name': ['黎明','赵怡春','张富平','白丽','牛玉德','姚华','李南'],
   Scratches and C 6
                               'gender': [True, False, True, False, True, False, True],
                               'age': [16, 20, 18, 18, 17, 18, 16],
                8
                               'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
               9
              10
                      frame = pd.DataFrame(data)
              11
                      print(frame.rename(columns={'ID': '学号', 'name': '姓名', 'gender': '性别', 'age': '年龄', 'height': '身高'}))
              12
              13
        Exec
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
                       姓名
                                 性别 年龄
                学号
                                                身高
                     黎明
           000001
                             True 16 1.88
                    赵怡春 False 20 1.78
           000002
           000003
                    张富平
                            True 18 1.81
        3 000004
                     白丽 False 18 1.86
                    牛玉德
        4 000005
                             True 17 1.74
                     姚华
           000006
                          False 18 1.75
                     李南
           000007
                             True 16 1.76
        Process finished with exit code a
        ≡ 6: TODO ■ Terminal → Python Console
                                                                                                                                               C Event Log
                                                                                                                     12:101 CRLF UTF-8 4 spaces Python 3.7 (mp2) 🦫 💆
```

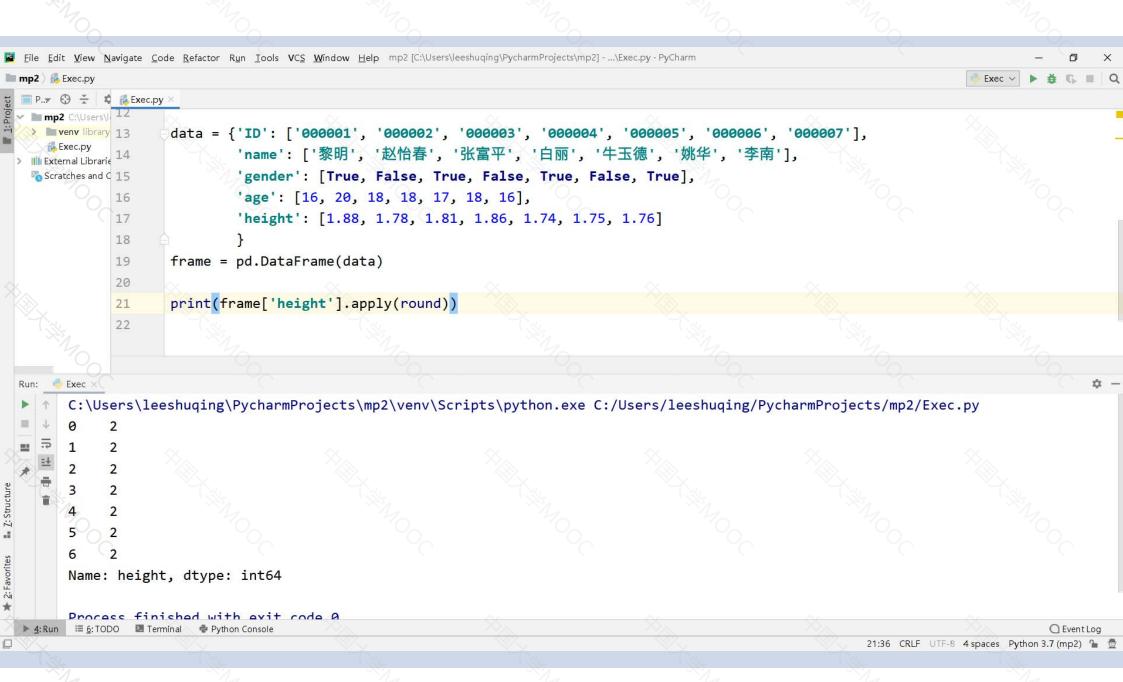




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🖺 File Edit View Navigate Code Refactor Run Jools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
                                                                                                                                Exec
  P..▼ ① ★ □ Exec.py
                     data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
   mp2 C:\Users\l 5
   venv library 6
                              'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
     Exec.py
                               'gender': [True, False, True, False, True, False, True],
  III External Librarie 7
   Scratches and C
                              'age': [16, 20, 18, 18, 17, 18, 16],
                              'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
              10
                     frame = pd.DataFrame(data)
              11
                     frame['newname'] = frame['name'].str[0:1] + '同学'
              12
              13
                     print(frame)
              14
        Exec
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
                ID name gender age height newname
                     黎明
                                                     黎同学
           000001
                             True
                                     16
                                           1.88
                    赵怡春
                            False
                                                      赵同学
           000002
                                     20
                                            1.78
                    张富平
                                                      张同学
           000003
                              True
                                     18
                                            1.81
                     白丽
                            False
                                                     白同学
           000004
                                     18
                                           1.86
                    牛玉德
                                                      牛同学
           000005
                              True
                                     17
                                            1.74
                     姚华
                                                     姚同学
           000006
                            False
                                     18
                                           1.75
                     李南
                                                     李同学
           000007
                             True
                                     16
                                           1.76
        Process finished with exit code 0
  ■ Terminal
                                  Python Console
PyCharm 2019.3.4 available: // Update... (today 10:09)
                                                                                                                 12:49 CRLF UTF-8 4 spaces Python 3.7 (mp2) 🦫 👨
```







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🖺 Eile Edit View Navigate Code Refactor Run Jools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
    P..y 🕀 🛨 🗯 🐔 Exec.py ×
   mp2 C:\Users\| 12
   > le venv library 13
                       data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
      Exec.py
                                'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
   IIII External Librarie 14
                                'gender': [True, False, True, False, True, False, True],
   Scratches and C 15
                                'age': [16, 20, 18, 18, 17, 18, 16],
                                'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
               17
               18
                       frame = pd.DataFrame(data)
               19
               20
                       print(frame['height'].apply(round, args=[1]))
               21
               22
        Exec
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
              1.9
              1.8
              1.8
              1.9
              1.7
              1.8
              1.8
        Name: height, dtype: float64
         Process finished with exit ande a
  ▶ 4: Run 🗏 6: TODO 🛂 Terminal 💠 Python Console
                                                                                                                                                   C Event Log
                                                                                                                         21:46 CRLF UTF-8 4 spaces Python 3.7 (mp2) 🦫 💆
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🖺 File Edit View Navigate Code Refactor Run Jools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
                                                                                                                                    Exec
             Exec.py
   mp2 C:\Users\l 5
                      data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
   > wenv library
                               'name': ['黎明','赵怡春','张富平','白丽','牛玉德','姚华','李南'],
     Exec.py
                               'gender': [True, False, True, False, True, False, True],
   III External Librarie 7
   Scratches and C
                               'age': [16, 20, 18, 18, 17, 18, 16],
                               'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
               10
                      frame = pd.DataFrame(data)
              11
              12
                      frame.index = [6, 5, 4, 3, 2, 1, 0]
               13
                      print(frame)
               14
               15
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
                ID name gender age height
                     黎明
                              True
           000001
                                      16
                                            1.88
                    赵怡春
                             False
           000002
                                             1.78
                                      20
                    张富平
           000003
                              True
                                      18
                                             1.81
           000004
                     白丽
                            False
                                      18
                                            1.86
                    牛玉德
           000005
                              True
                                      17
                                             1.74
                     姚华
                            False
           000006
                                            1.75
                                      18
                     李南
           000007
                              True
                                     16
                                            1.76
         1 5: Debug 1 6: TODO 1 2 Terminal
                                  Python Console
                                                                                                                    13:36 CRLF UTF-8 8 spaces* Python 3.7 (mp2) 🦫 💆
```

```
🔟 File Edit View Navigate Code Refactor Run Iools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
             Exec.py
   mp2 C:\Users\l
                      data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
   > wenv library
                               'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
     Exec.py
   IIII External Librarie
                               'gender': [True, False, True, False, True, False, True],
   Scratches and C
                               'age': [16, 20, 18, 18, 17, 18, 16],
                               'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
                9
               10
                      frame = pd.DataFrame(data)
               11
               12
                      print(frame.rename(index={0: 6, 1: 5, 2: 4, 3: 3, 4: 2, 5: 1, 6: 0}))
               13
               14
               15
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
                ID name gender age height
                      黎明
                              True
           000001
                                      16
                                             1.88
                    赵怡春
                              False
           000002
                                             1.78
                                       20
                    张富平
            000003
                               True
                                       18
                                             1.81
            000004
                      白丽
                             False
                                      18
                                             1.86
                    牛玉德
           000005
                               True
                                       17
                                             1.74
                      姚华
                             False
           000006
                                      18
                                             1.75
                      李南
           000007
                              True
                                      16
                                             1.76
         i <u>5</u>: Debug <u>ii 6</u>: TODO
                                   Python Console
                          ■ Terminal
                                                                                                                     13:70 CRLF UTF-8 8 spaces* Python 3.7 (mp2) 🦫 💆
```

```
📴 Eile Edit View Navigate Code Refactor Run Iools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
    P..y 🕀 😤 🗯 Exec.py ×
                      import pandas as pd
   mp2 C:\Users\| 2
   > le venv library 3
                     from pandas import DataFrame
     Exec.py
   III External Librarie
                      data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
   Scratches and C 5
                               'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
                               'gender': [True, False, True, False, True, False, True],
                               'age': [16, 20, 18, 18, 17, 18, 16],
               8
                               'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
              10
                     frame = pd.DataFrame(data)
              11
              12
                     frame = frame.rename(index={0: 6, 1: 5, 2: 4, 3: 3, 4: 2, 5: 1, 6: 0})
              13
                      print(frame[0:1])
              14
              15
       Exec >
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
                ID name gender age height
           000001
                     黎明
                             True
                                     16
        Process finished with exit code 0

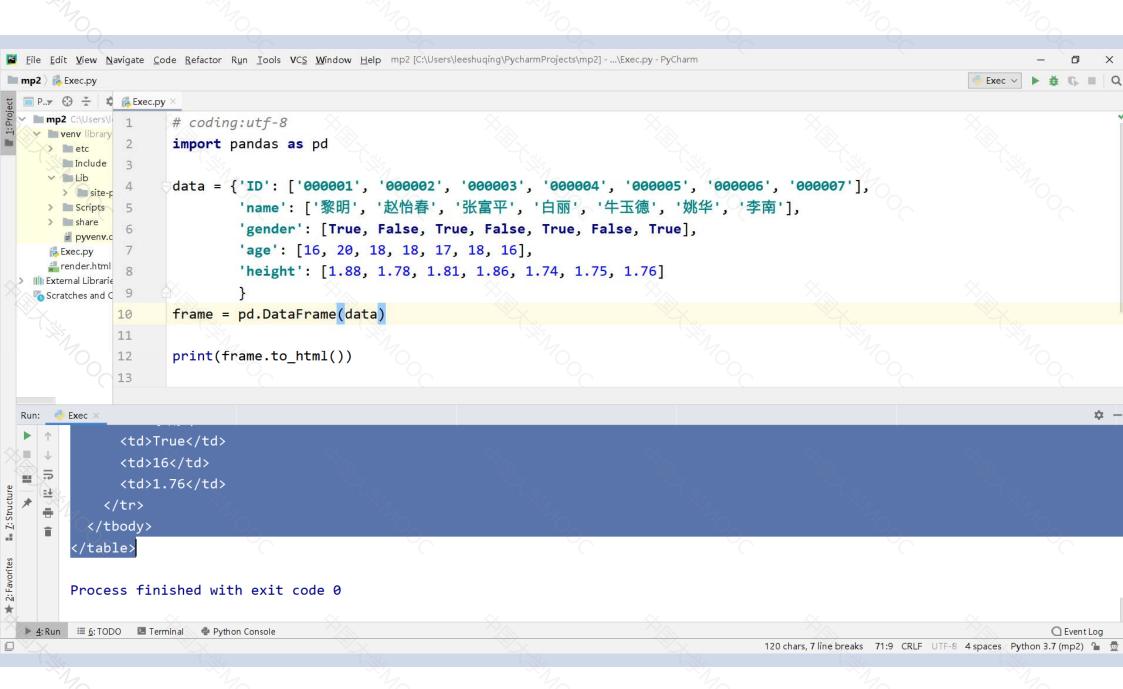
■ Terminal

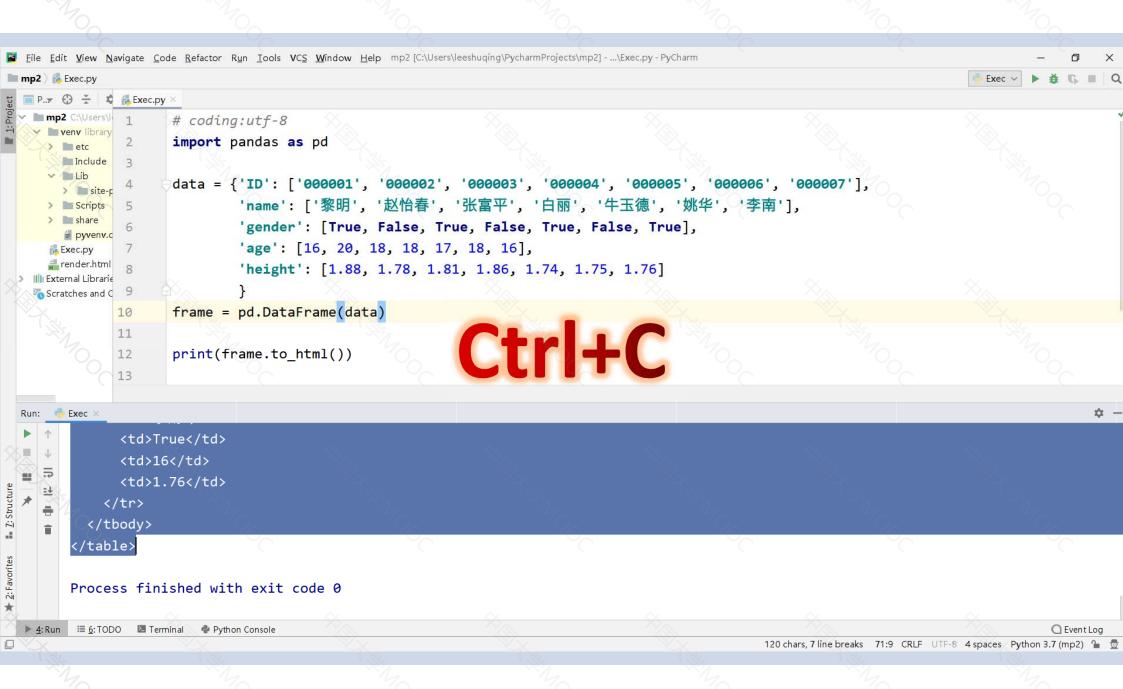
                                                                                                                   14:18 CRLF UTF-8 8 spaces* Python 3.7 (mp2) 🔓 👨
```

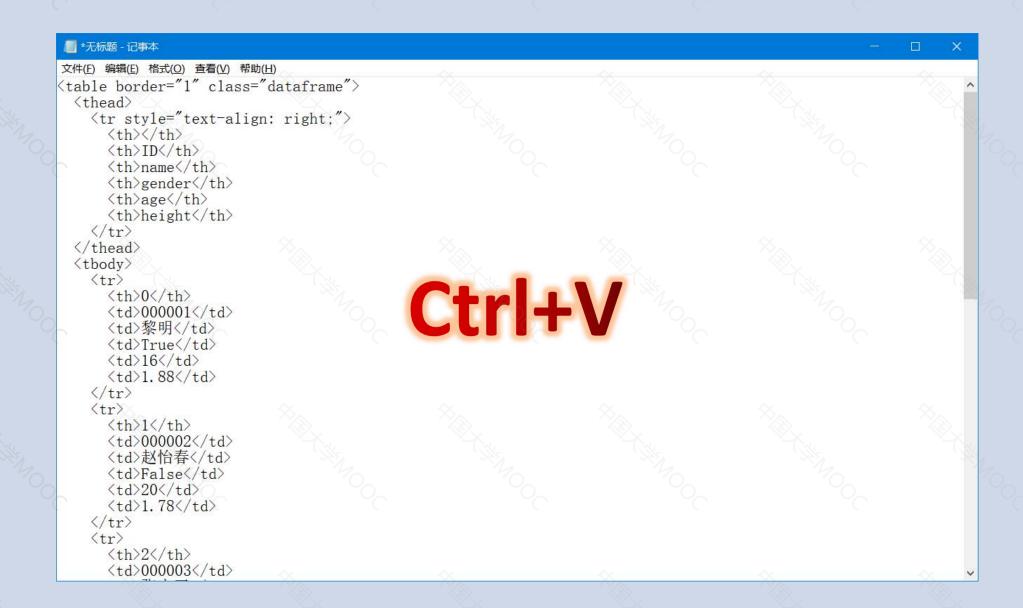
```
🖺 File Edit View Navigate Code Refactor Run Jools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
     .y ⊕ 😤 🕏 Exec.py ×
                      trom pandas import DataFrame
   mp2 C:\Users\l
     venv library
     Exec.py
                      data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
   III External Librarie
                               'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
   Scratches and C 6
                               'gender': [True, False, True, False, True, False, True],
                               'age': [16, 20, 18, 18, 17, 18, 16],
                8
                               'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
                9
               10
                      frame = pd.DataFrame(data)
               11
               12
                      print(frame)
        Exec >
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
                ID name gender age height
                      黎明
            000001
                              True
                                      16
                                             1.88
            000002
                    赵怡春
                              False
                                       20
                                              1.78
           000003
                    张富平
                               True
                                       18
                                              1.81
                      白丽
            000004
                             False
                                      18
                                             1.86
                     牛玉德
            000005
                               True
                                              1.74
                                       17
                      姚华
            000006
                             False
                                      18
                                             1.75
                      本击
                              Thua
                                             1 76
         ≣ 6: TODO ■ Terminal
                          Python Console
                                                                                                                                               C Event Log
                                                                                                                     13:13 CRLF UTF-8 8 spaces* Python 3.7 (mp2) 🦫 💆
```

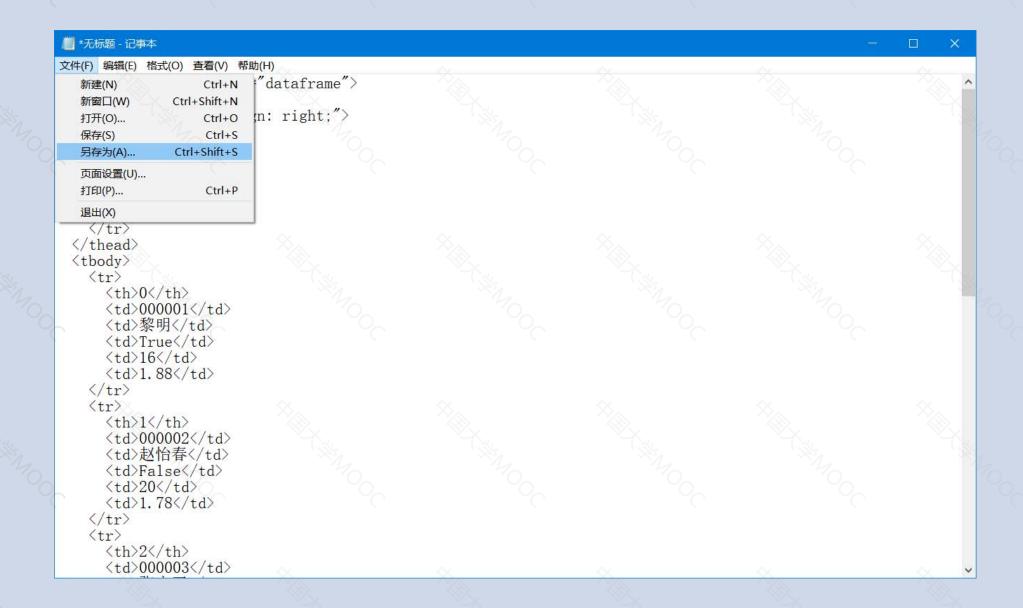
```
📴 Eile Edit View Navigate Code Refactor Run Iools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
   P..y 🕀 😤 🗯 Exec.py ×
                    import pandas as pd
   mp2 C:\Users\| 2
   > le venv library 3
                    from pandas import DataFrame
     Exec.py
   III External Librarie
                    data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
   Scratches and C 5
                             'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
                             'gender': [True, False, True, False, True, False, True],
                             'age': [16, 20, 18, 18, 17, 18, 16],
              8
                             'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
             10
                    frame = pd.DataFrame(data)
             11
             12
                    print(frame.to html())
             13
       Exec >
       C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
       <thead>
           ID
             name
             gender
              /+h\200//+h\
        i <u>5</u>: Debug ≡ <u>6</u>: TODO □ Terminal
                                Python Console
                                                                                                           13:23 CRLF UTF-8 8 spaces* Python 3.7 (mp2) 🦫 👨
```

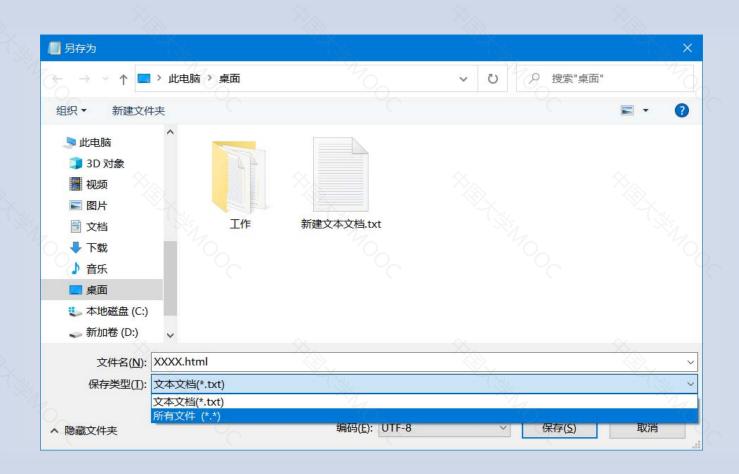
```
🖺 Eile Edit View Navigate Code Refactor Run Jools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
  mp2 C:\Users\l 1
                   # coding:utf-8
   y venv library
                   import pandas as pd
    > etc
      Include
    v lib
                    data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
      > site-r
                            'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
    > Scripts
    > share
                            'gender': [True, False, True, False, True, False, True],
      pyvenv.c
                            'age': [16, 20, 18, 18, 17, 18, 16],
     Exec.py
     arender.html
                            'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
   III External Librarie
   Scratches and C 9
                    frame = pd.DataFrame(data)
             10
             11
                   print(frame.to html())
             12
       C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
       <thead>
           ID
             name
             gender
             age
               ■ Terminal
                       Python Console
                                                                                           501 chars, 28 line breaks 30:1 CRLF UTF-8 4 spaces Python 3.7 (mp2) 🦫 💆
```













5 000006 姚华

6 000007 李南

False

True

18

16

1.75

1.76

一次不学多,下次再学