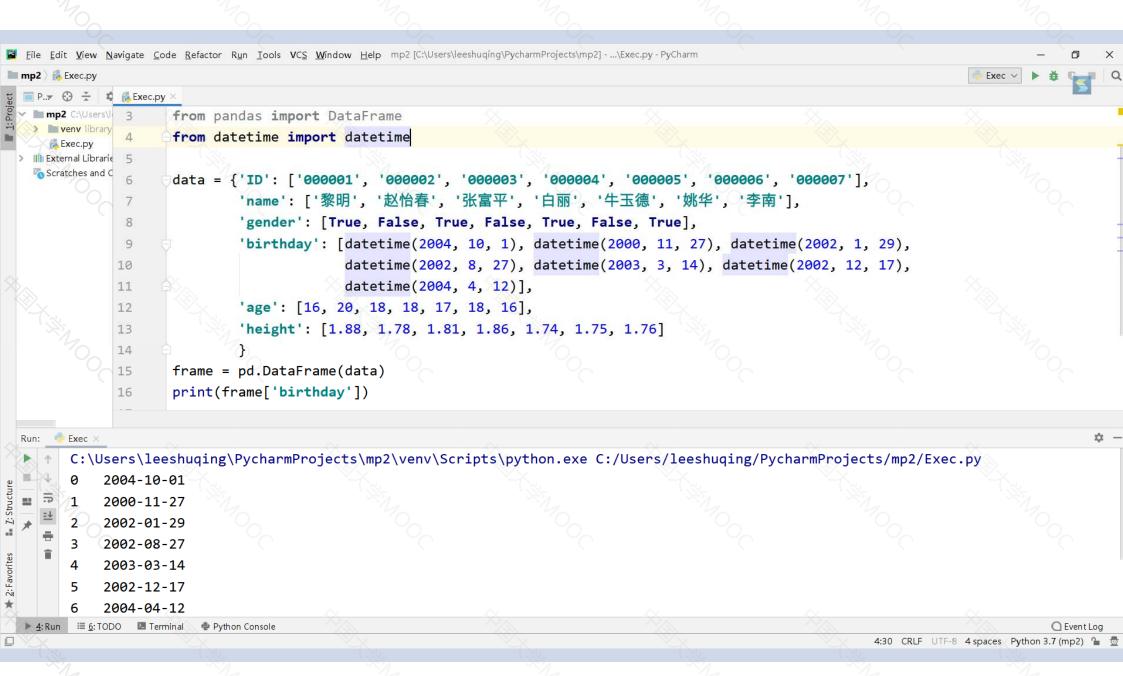
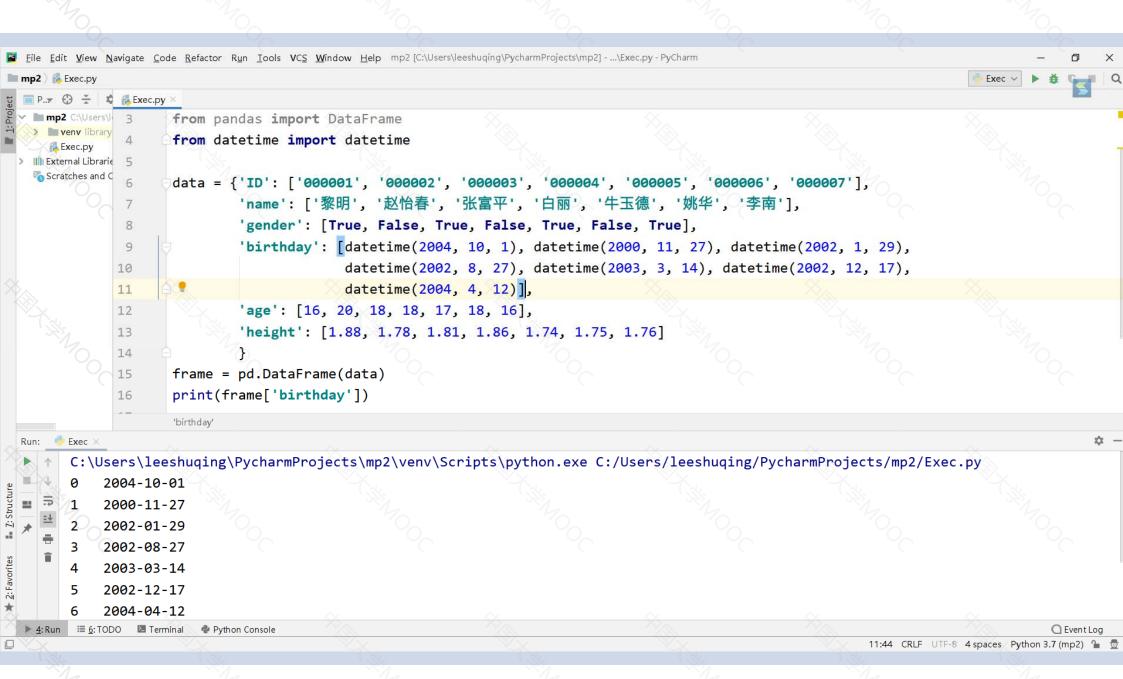
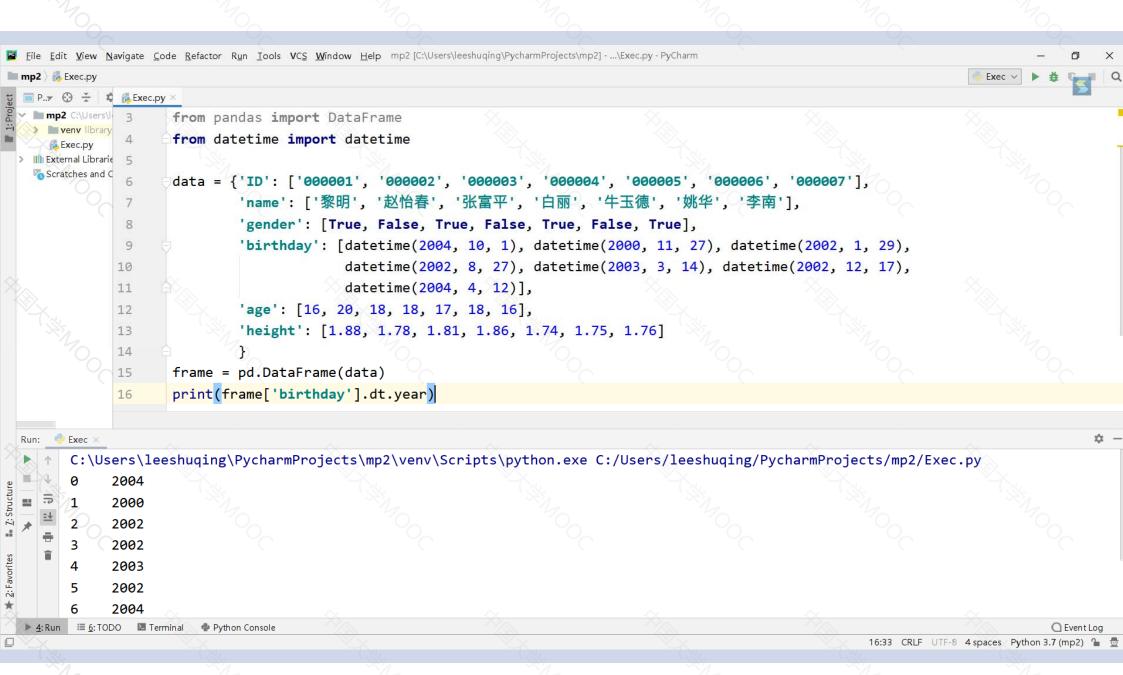
Python大数据分析

一、时间列的基本操作



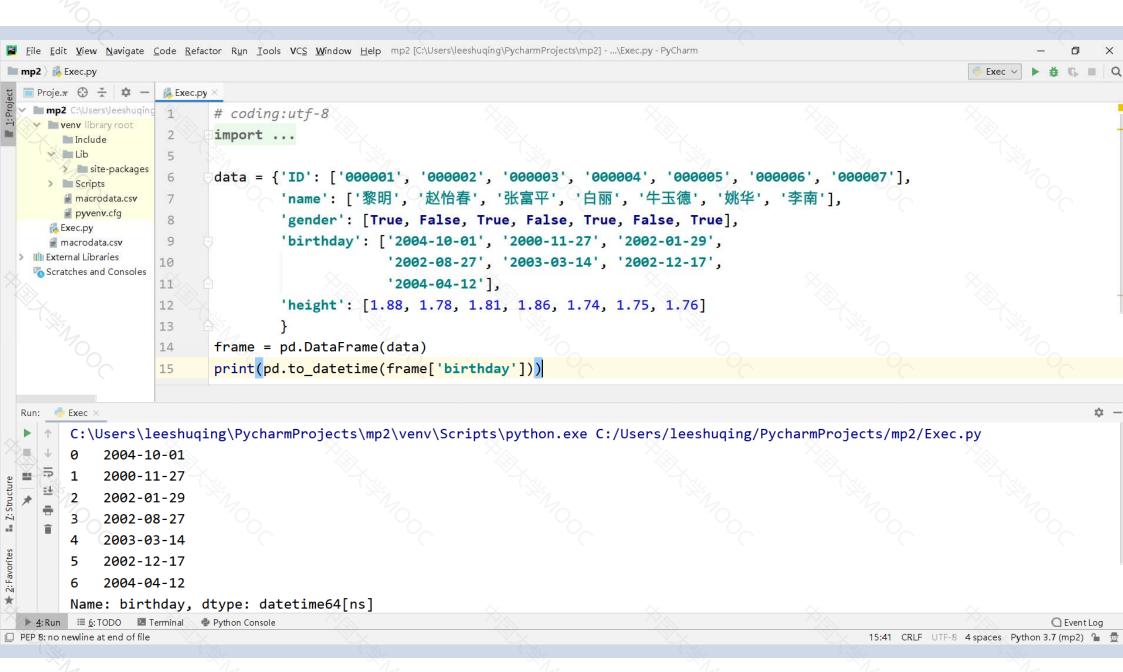




```
📱 Eile Edit View Navigate Code Refactor Run Iools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
   P... 🕀 🛨 🕏 🐔 Exec.py
   mp2 C:\Users\l
   > wenv library
     Exec.py
                      data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
   |||| External Librarie
                               'name': ['黎明','赵怡春','张富平','白丽','牛玉德','姚华','李南'],
   Scratches and C
                               'gender': [True, False, True, False, True, False, True],
                               'birthday': [datetime(2004, 10, 1), datetime(2000, 11, 27), datetime(2002, 1, 29),
                                             datetime(2002, 8, 27), datetime(2003, 3, 14), datetime(2002, 12, 17),
              10
                                             datetime(2004, 4, 12)],
              11
                               'age': [16, 20, 18, 18, 17, 18, 16],
              12
                               'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
              13
               14
                      frame = pd.DataFrame(data)
               15
                      print(datetime.now().year - frame['birthday'].dt.year)
               16
              17
        Exec
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
              16
              20
              18
             18
              17
              18
              16
                 ■ Terminal
                          Python Console
                                                                                                                     16:55 CRLF UTF-8 4 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
mp2 Exec.py
  Trom datetime import datetime
   mp2 C:\Users\l
   > wenv library 5
     Exec.py
                     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 7
                             'gender': [True, False, True, False, True, False, True],
              9
                             'birthday': [datetime(2004, 10, 1), datetime(2000, 11, 27), datetime(2002, 1, 29),
                                           datetime(2002, 8, 27), datetime(2003, 3, 14), datetime(2002, 12, 17),
              10
                                          datetime(2004, 4, 12)],
              11
              12
                             'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
              13
                    frame = pd.DataFrame(data)
                    frame['age'] = datetime.now().year - frame['birthday'].dt.year
              15
                     print(frame)
              16
       Exec >
       C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
               ID name gender birthday height age
                    黎明
                            True 2004-10-01
          000001
                                                1.88
                                                       16
                   赵怡春
                           False 2000-11-27
          000002
                                                 1.78
                                                        20
          000003
                   张富平
                            True 2002-01-29
                                                 1.81
                                                        18
          000004
                    白丽
                           False 2002-08-27
                                                1.86
                                                       18
                   牛玉德
                             True 2003-03-14
          000005
                                                 1.74
                                                        17
                    姚华
          000006
                           False 2002-12-17
                                                1.75
                                                       18
        Python Console
                                                                                                              15:63 CRLF UTF-8 4 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
   > env library
                     data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
     Exec.py
  External Librarie
                              'name': ['黎明','赵怡春','张富平','白丽','牛玉德','姚华','李南'],
   Scratches and C
                              'gender': [True, False, True, False, True, False, True],
                              'birthday': [datetime(2004, 10, 1), datetime(2000, 11, 27), datetime(2002, 1, 29),
                                            datetime(2002, 8, 27), datetime(2003, 3, 14), datetime(2002, 12, 17),
              10
                                            datetime(2004, 4, 12)],
              11
              12
                              'age': [16, 20, 18, 18, 17, 18, 16],
                              'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
              13
              14
                     frame = pd.DataFrame(data)
              15
                     print(frame['birthday'].dt.year.apply(str) + '年' + frame['birthday'].dt.month.apply(str) + '月')
              17
              2002年8月
              2003年3月
             2002年12月
              2004年4月
        Name: birthday, dtype: object
        Process finished with exit code 0
        ≡ 6: TODO ■ Terminal
                         Python Console
                                                                                                                                         C Event Log
                                                                                                                 16:96 CRLF UTF-8 4 spaces Python 3.7 (mp2) 🦫 💆
```

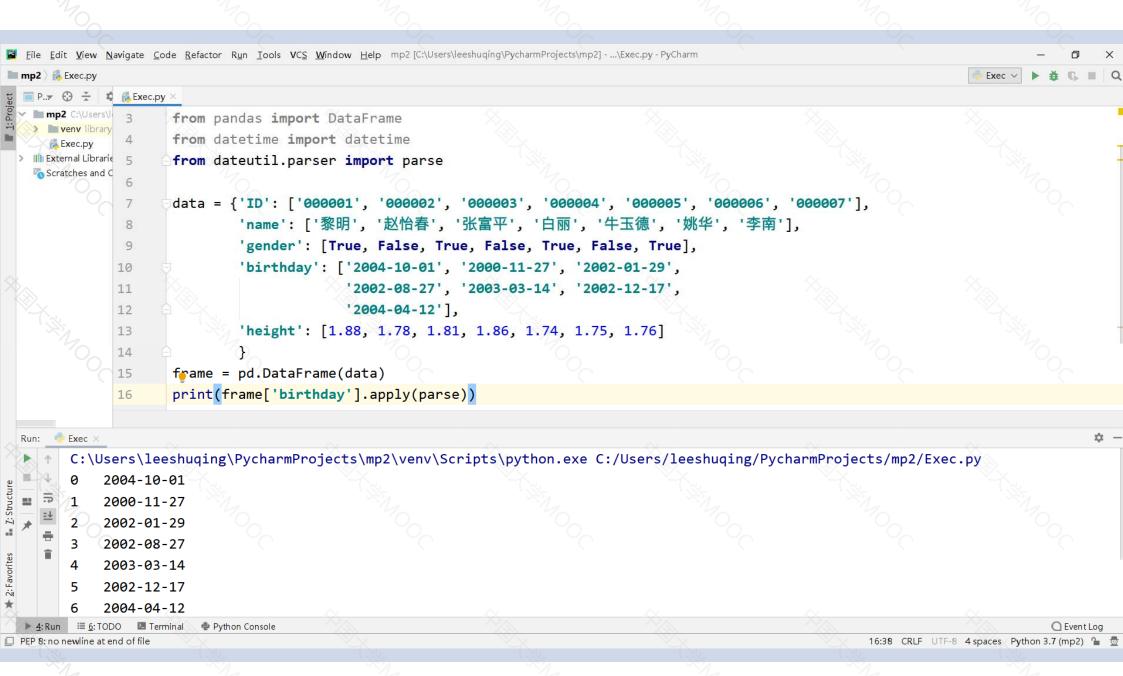


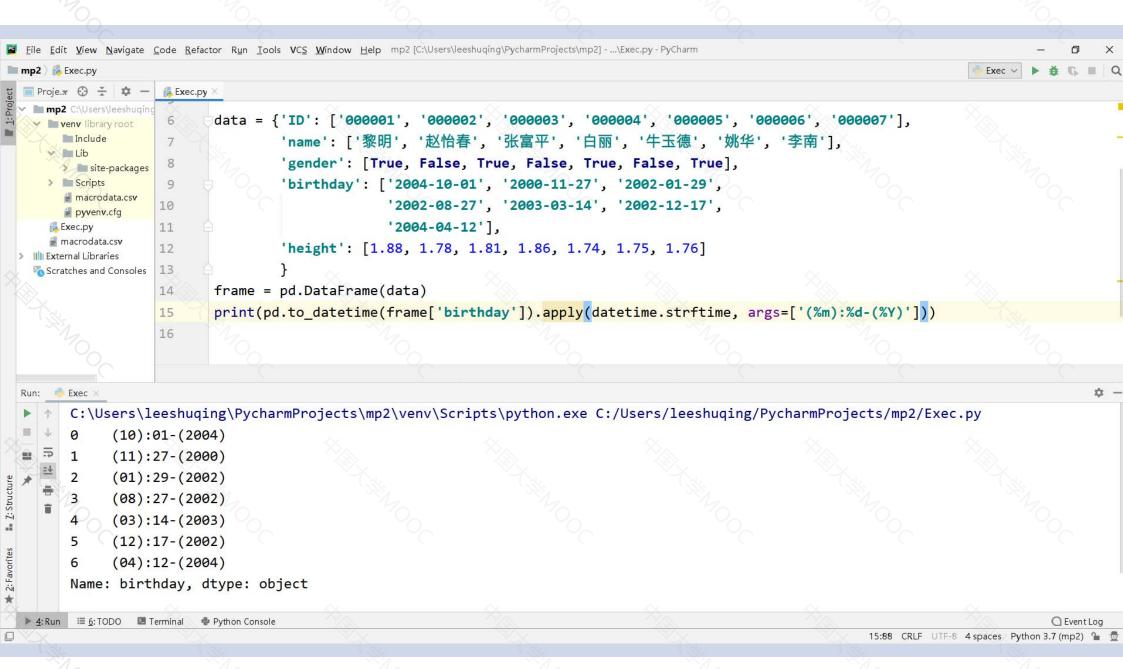
```
🖺 File Edit View Navigate Code Refactor Run Jools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
mp2 Exec.py
  from pandas import DataFrame
   mp2 C:\Users\I 3
   > env library
                    from datetime import datetime
     Exec.py
  III External Librarie
   Scratches and C 6
                    data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
                             '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],
              8
                             'birthday': ['2004-10-01', '2000-11-27', '2002-01-29',
              9
                                           '2002-08-27', '2003-03-14', '2002-12-17',
             10
                                          '2004-04-12'].
             11
             12
                             'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
              13
                    frame = pd.DataFrame(data)
              14
                    frame['age'] = datetime.now().year - pd.to datetime(frame['birthday']).dt.year
              15
                    print(frame)
              16
       C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
               ID name gender
                                  birthday height age
                    黎明
                            True 2004-10-01
          000001
                                                 1.88
                                                        16
                   赵怡春
                           False 2000-11-27
          000002
                                                 1.78
                                                        20
                  张富平
          000003
                            True 2002-01-29
                                                 1.81
                                                        18
                    白丽
          000004
                           False 2002-08-27
                                                 1.86
                                                        18
                   牛玉德
                             True 2003-03-14
          000005
                                                 1.74
                                                        17
                    姚华
          000006
                           False 2002-12-17
                                                 1.75
                                                        18
        Python Console
                                                                                                             15:79 CRLF UTF-8 4 spaces Python 3.7 (mp2) 🦫 👨
```

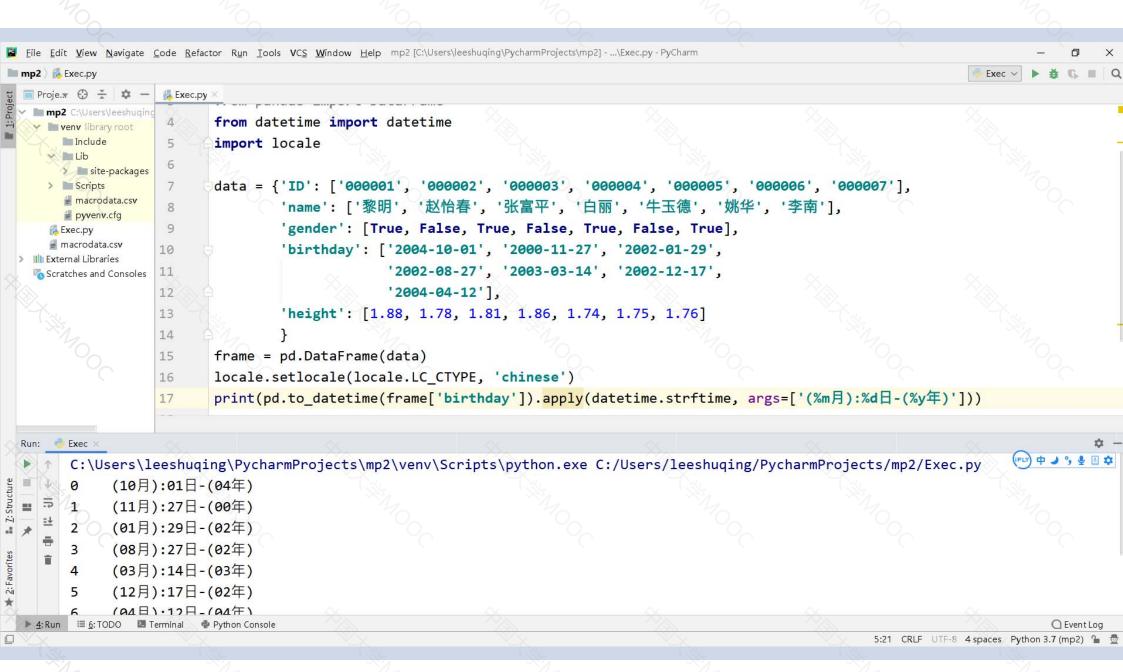
```
🖺 File Edit View Navigate Code Refactor Run Jools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
  mp2 C:\Users\l
                    from pandas import DataFrame
   > wenv library
                    from datetime import datetime
     Exec.py
  External Librarie
   Scratches and C
                     data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
                             'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
              7
                             'gender': [True, False, True, False, True, False, True],
              8
                             'birthday': ['10-01-2004', '11-27-2000', '01-29-2002',
              9
                                           '08-27-2002', '03-14-2003', '12-17-2002',
              10
                                          '04-12-2004']
              11
                             'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
              12
                     frame = pd.DataFrame(data)
                    frame['age'] = datetime.now().year - pd.to datetime(frame['birthday']).dt.year
              15
                     print(frame)
              16
                     'birthday'
       C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
               ID name gender
                                  birthday height age
                    黎明
          000001
                            True 10-01-2004
                                                 1.88
                                                        16
                   赵怡春
                           False 11-27-2000
          000002
                                                 1.78
                                                         20
          000003
                   张富平
                             True 01-29-2002
                                                  1.81
                                                         18
                    白丽
          000004
                           False 08-27-2002
                                                 1.86
                                                        18
                   牛玉德
          000005
                             True 03-14-2003
                                                  1.74
                                                         17
                    姚华
          000006
                           False 12-17-2002
                                                 1.75
                                                        18
        Python Console
                                                                                                             11:35 CRLF UTF-8 4 spaces Python 3.7 (mp2) 🔓 👨
```

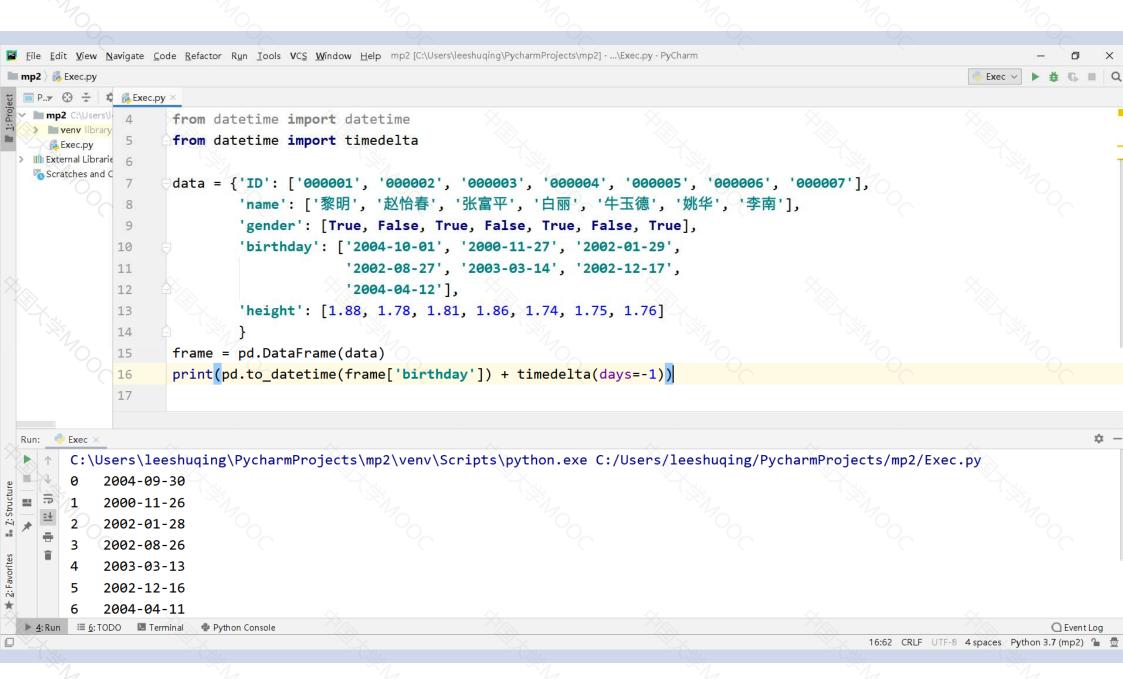
```
📱 File Edit View Navigate Code Refactor Run Jools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
  🔳 P..y 🚷 😤 🗱 Exec.py ×
   mp2 C:\Users\l
                     from pandas import DataFrame
   > venv library
                     from datetime import datetime
     Exec.py
  External Librarie
   Scratches and C
                     data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
                              '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],
               8
                               'birthday': ['10-01-2004年', '11-27-2000年', '01-29-2002年',
               9
                                            '08-27-2002年', '03-14-2003年', '12-17-2002年',
              10
                                            '04-12-2004年'],
              11
                              'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
              12
                     frame = pd.DataFrame(data)
                     frame['age'] = datetime.now().year - pd.to datetime(frame['birthday']).dt.year
              15
                     print(frame)
              16
                     'birthday'
          File "C:\Users\leeshuqing\PycharmProjects\mp2\venv\lib\site-packages\dateutil\parser\ parser.py", line 1374, in parse
            return DEFAULTPARSER.parse(timestr, **kwargs)
          File "C:\Users\leeshuqing\PycharmProjects\mp2\venv\lib\site-packages\dateutil\parser\ parser.py", line 649, in parse
            raise ParserError("Unknown string format: %s", timestr)
        dateutil.parser. parser.ParserError: Unknown string format: 10-01-2004年
        Process finished with exit code 1
        Python Console
                                                                                                                                        C Event Log
                                                                                                                11:36 CRLF UTF-8 4 spaces Python 3.7 (mp2) 🦫 💆
```

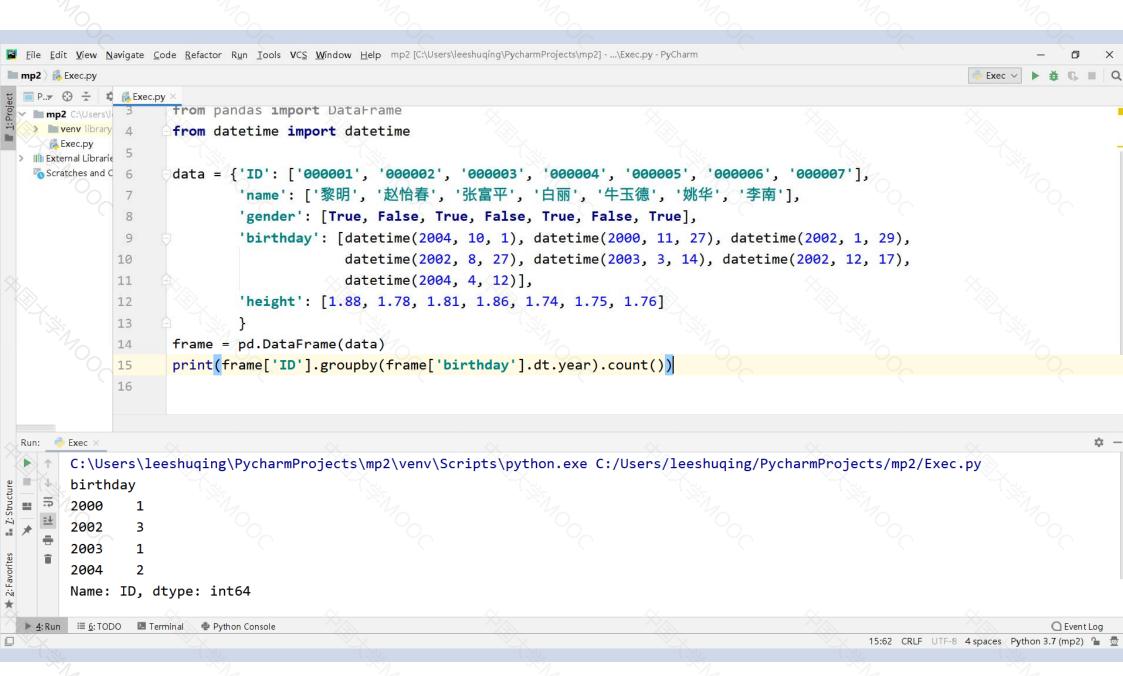
```
🖺 File Edit View Navigate Code Refactor Run Jools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
mp2 \ Exec.py
  ■ Proje.x 🕀 🛨 🌣 —
                    Exec.py X
   mp2 C:\Users\leeshuqing
   y library root
                           data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
                     6
       Include
                                    'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
     Lib
       > site-packages
                                    'gender': [True, False, True, False, True, False, True],
    > Scripts
                                    'birthday': ['10-01-2004年', '11-27-2000年', '01-29-2002年',
       macrodata.csv
       pyvenv.cfg
                                                  '08-27-2002年', '03-14-2003年', '12-17-2002年',
     Exec.py
                                                  '04-12-2004年']。
                    11
     macrodata.csv
   III External Libraries
                                    'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
                    12
   Scratches and Consoles
                    13
                           frame = pd.DataFrame(data)
                    14
                           frame['age'] = datetime.now().year - frame['birthday'].apply(datetime.strptime, args=['%m-%d-%Y年']).dt.year
                    15
                           print(frame)
                    16
      🥐 Exec 🗵
 Run:
        C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
                ID name gender
                                      birthday height age
                     黎明
           000001
                             True 10-01-2004年
                                                     1.88
                                                             16
                    赵怡春
           000002
                             False 11-27-2000年
                                                      1.78
                                                              20
                    张富平
           000003
                              True 01-29-2002年
                                                      1.81
                                                              18
                     白丽
                            False 08-27-2002年
           000004
                                                      1.86
                                                             18
                    牛玉德
                              True 03-14-2003年
           000005
                                                      1.74
                                                              17
                     姚华
                            False 12-17-2002年
           000006
                                                      1.75
                                                             18
                             True 04-12-2004年
           000007
                     李南
                                                      1.76
                                                             16
        ■ 6: TODO
■ Terminal
                         Python Console
                                                                                                                                            C Event Log
                                                                                                                   15:100 CRLF UTF-8 4 spaces Python 3.7 (mp2) 🧣 💆
```

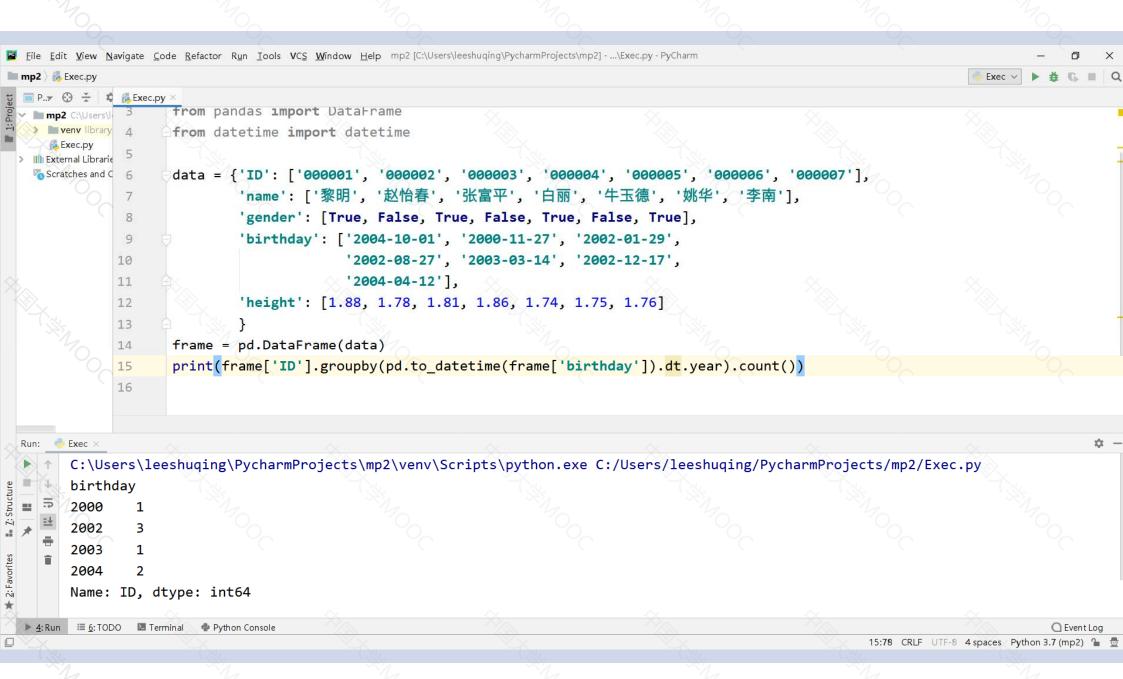












一次不学多,下次再学