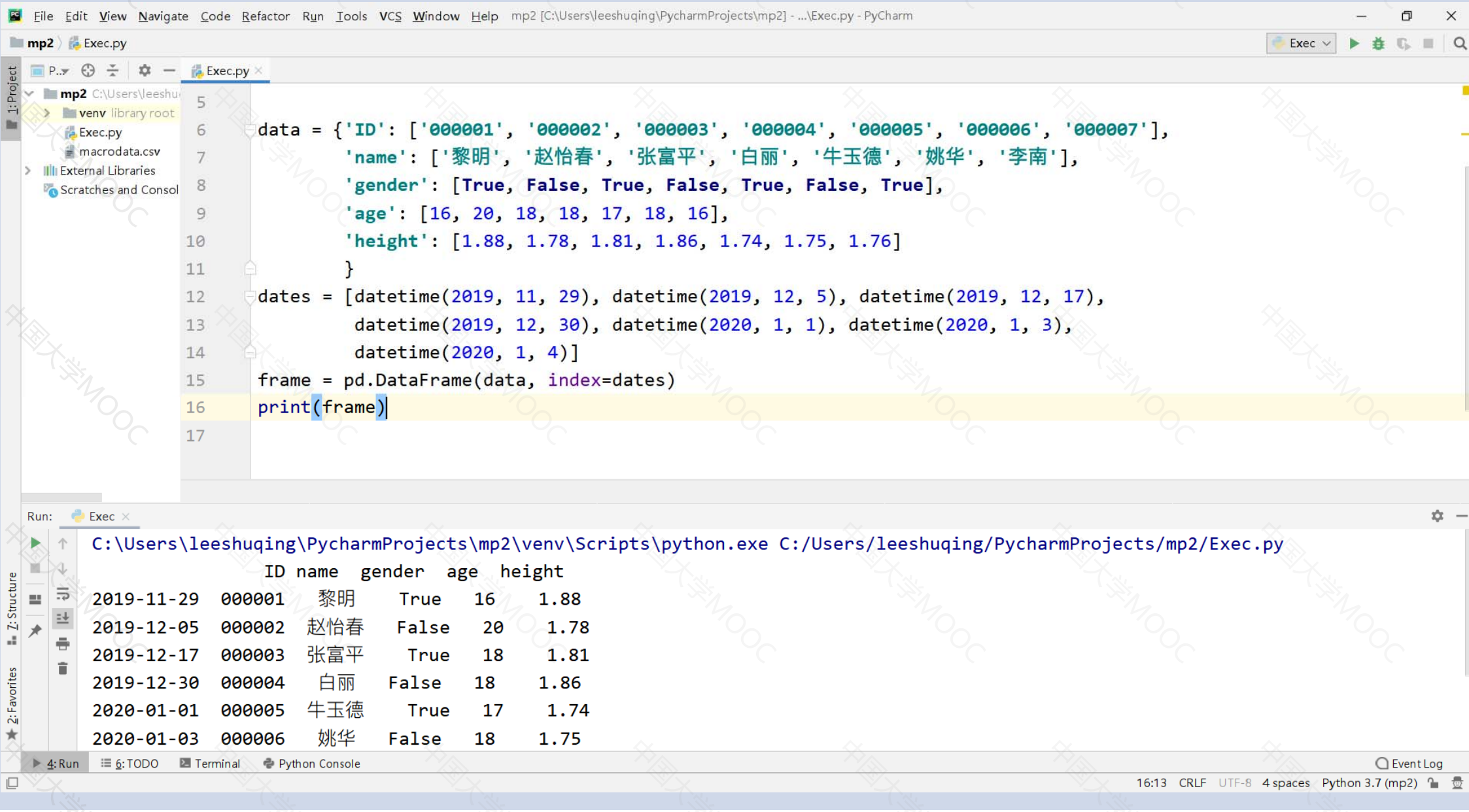
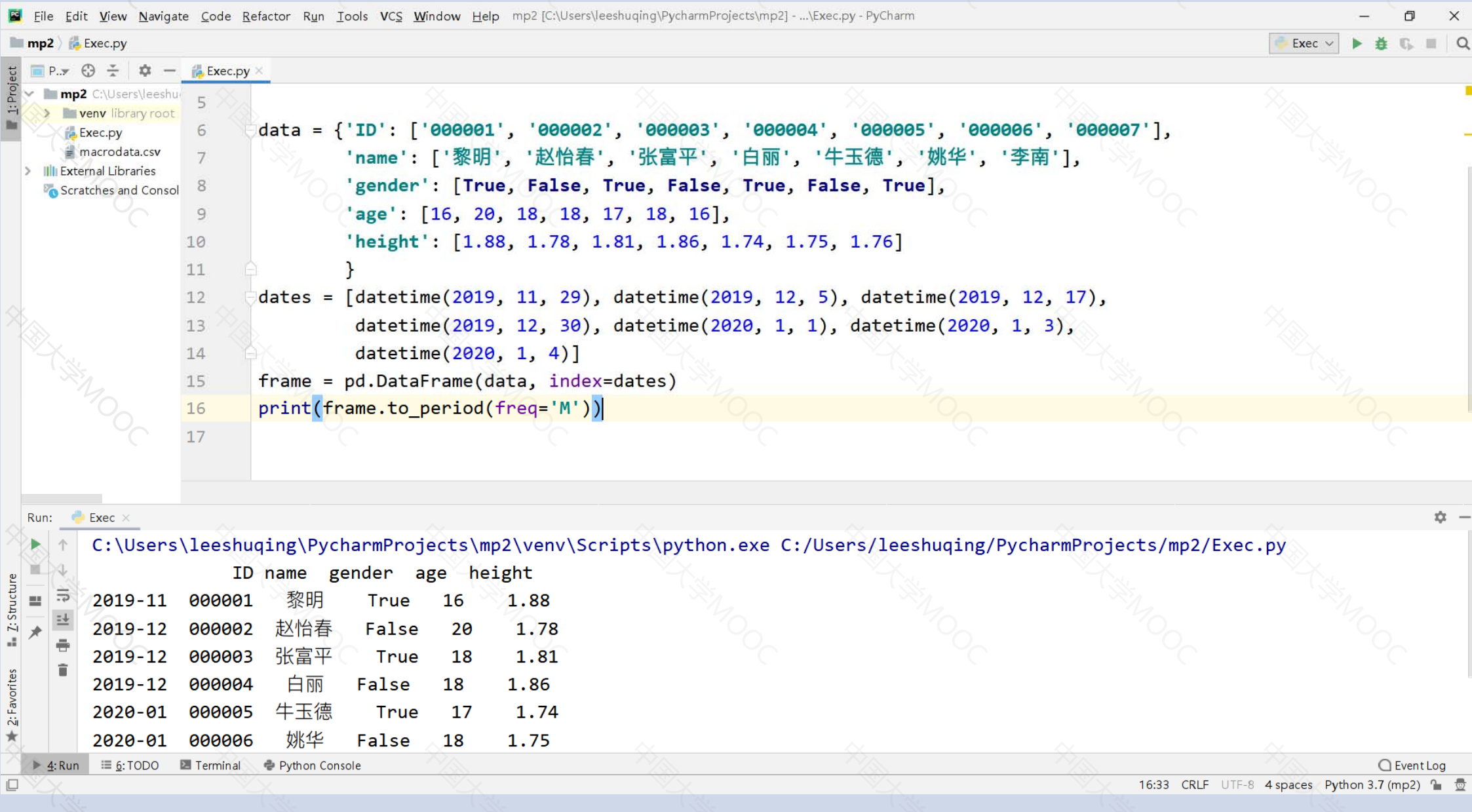
Python大数据分析

四、时间单位的转换

中国大学MOOC


File Edit View Navigate Code Refactor Run Tools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
mp2 Exec.py
Exec
Exec.py
mp2 C:\Users\leeshu
venv library root
Exec.py
macrodata.csv
External Libraries
Scratches and Consol
5
6 data = {'ID': ['000001', '000002', '000003', '000004', '000005', '000006', '000007'],
7 'name': ['黎明', '赵怡春', '张富平', '白丽', '牛玉德', '姚华', '李南'],
8 'gender': [True, False, True, False, True, False, True],
9 'age': [16, 20, 18, 18, 17, 18, 16],
10 'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
11 }
12 dates = [datetime(2019, 11, 29), datetime(2019, 12, 5), datetime(2019, 12, 17),
13 datetime(2019, 12, 30), datetime(2020, 1, 1), datetime(2020, 1, 3),
14 datetime(2020, 1, 4)]
15 frame = pd.DataFrame(data, index=dates)
16 print(frame)
17
Run: Exec
C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
ID name gender age height
2019-11-29 000001 黎明 True 16 1.88
2019-12-05 000002 赵怡春 False 20 1.78
2019-12-17 000003 张富平 True 18 1.81
2019-12-30 000004 白丽 False 18 1.86
2020-01-01 000005 牛玉德 True 17 1.74
2020-01-03 000006 姚华 False 18 1.75
4: Run
6: TODO
Terminal
Python Console
Event Log
16:13 CRLF UTF-8 4 spaces Python 3.7 (mp2)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9 'age': [16, 20, 18, 18, 17, 18, 16],
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13 datetime(2019, 12, 30), datetime(2020, 1, 1), datetime(2020, 1, 3),
14 datetime(2020, 1, 4)]
15 frame = pd.DataFrame(data, index=dates)
16 print(frame.to_period(freq='M'))
17
Run: Exec
C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
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2020-01 000005 牛玉德 True 17 1.74
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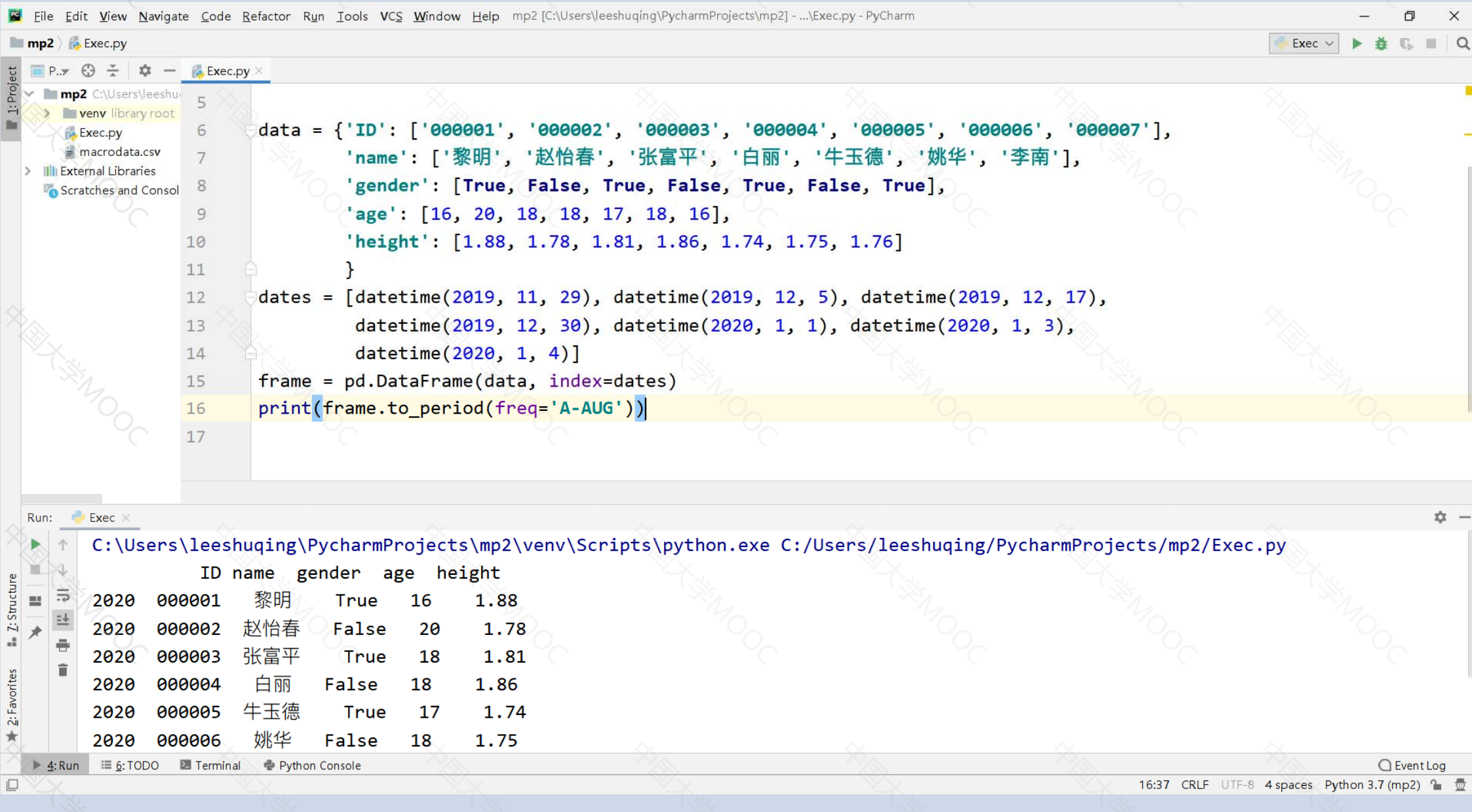
16:33 CRLF UTF-8 4 spaces Python 3.7 (mp2)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15 frame = pd.DataFrame(data, index=dates)
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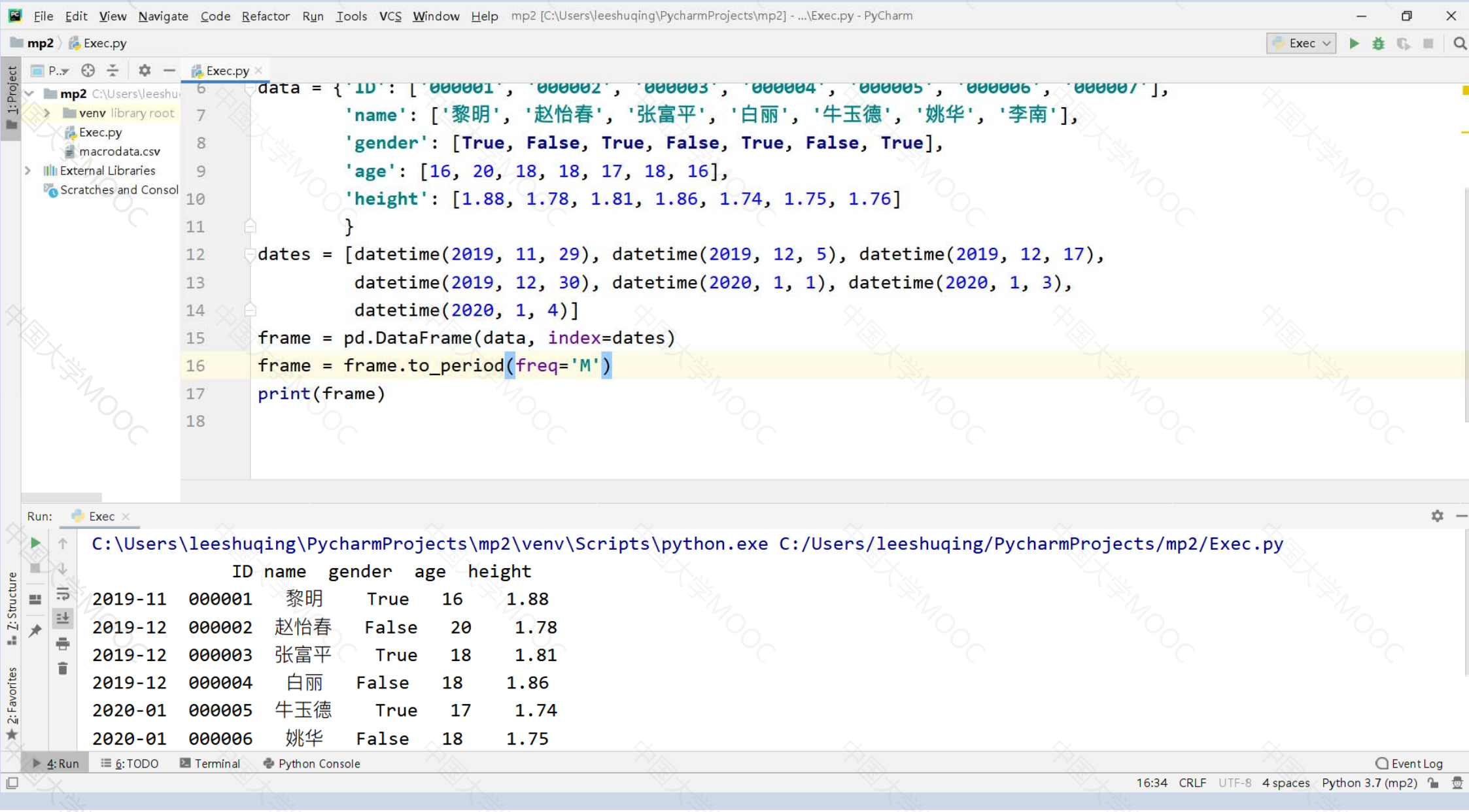
16:37 CRLF UTF-8 4 spaces Python 3.7 (mp2)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frame = frame.to_period(freq='M')
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Run: Exec
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ID name gender age height
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2020-01 000005 牛玉德 True 17 1.74
2020-01 000006 姚华 False 18 1.75
4: Run
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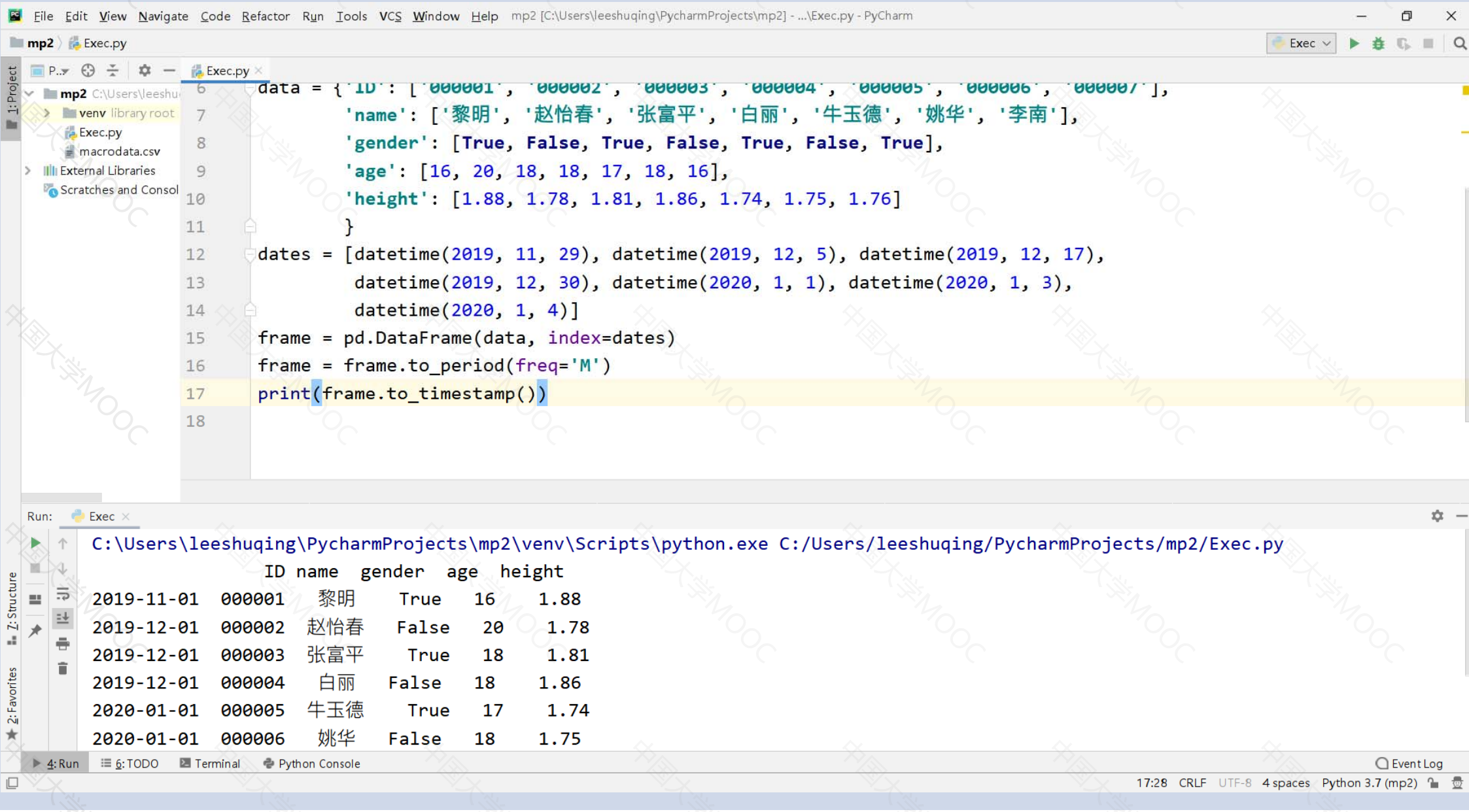
Event Log
16:34 CRLF UTF-8 4 spaces Python 3.7 (mp2)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mp2 Exec.py
Exec
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Exec.py
macrodata.csv
External Libraries
Scratches and Consol
data = {'ID': ['000001', '000002', '000003', '000004', '000005', '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],
'age': [16, 20, 18, 18, 17, 18, 16],
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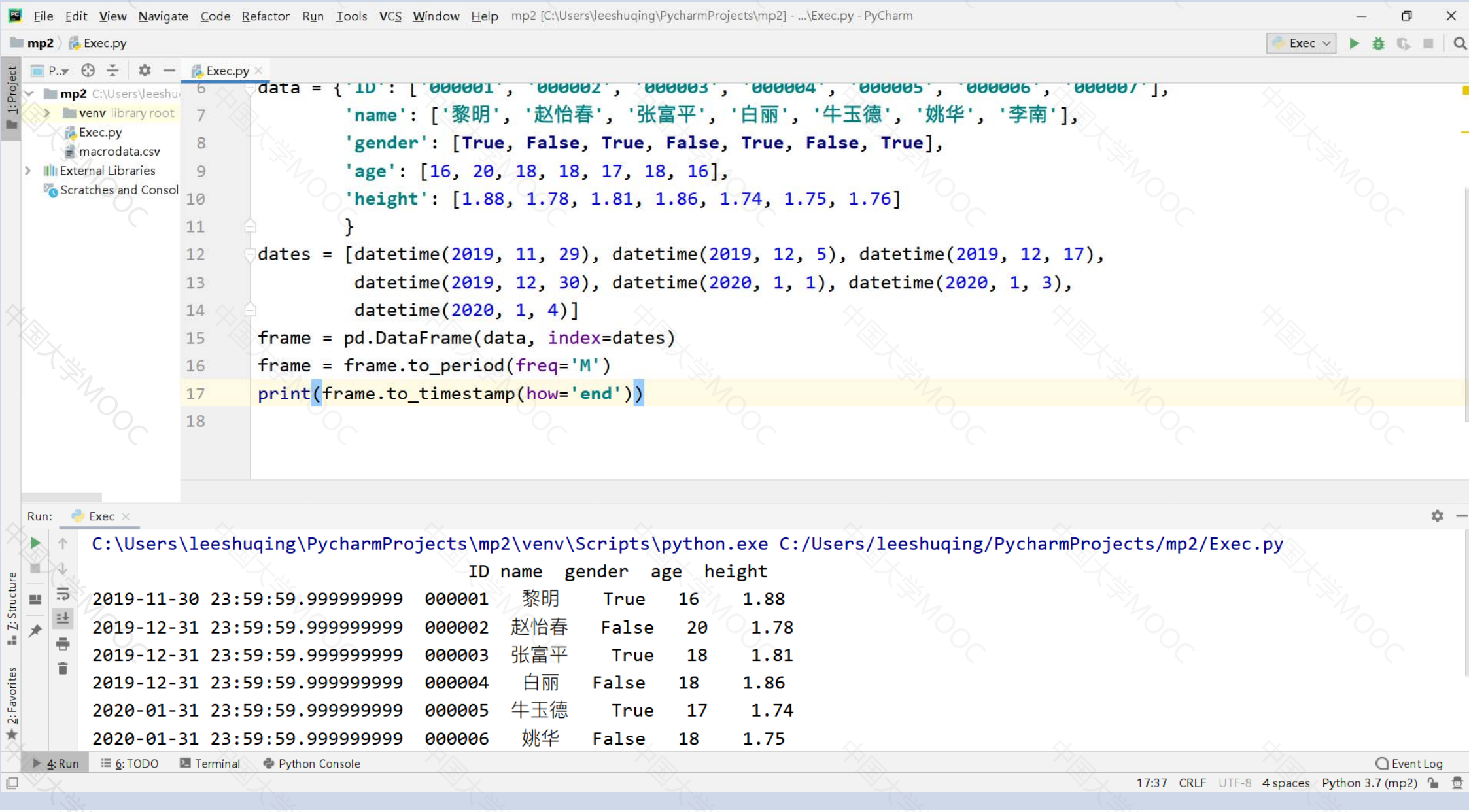
datetime(2020, 1, 4)]
frame = pd.DataFrame(data, index=dates)
frame = frame.to_period(freq='M')
print(frame.to_timestamp())
Run: Exec
C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
ID name gender age height
2019-11-01 000001 黎明 True 16 1.88
2019-12-01 000002 赵怡春 False 20 1.78
2019-12-01 000003 张富平 True 18 1.81
2019-12-01 000004 白丽 False 18 1.86
2020-01-01 000005 牛玉德 True 17 1.74
2020-01-01 000006 姚华 False 18 1.75
4: Run
6: TODO
Terminal
Python Console
Event Log
17:28 CRLF UTF-8 4 spaces Python 3.7 (mp2)


File Edit View Navigate Code Refactor Run Tools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
mp2 Exec.py
Exec
Exec.py
mp2 C:\Users\leeshu
venv library root
Exec.py
macrodata.csv
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Scratches and Consol
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],
'age': [16, 20, 18, 18, 17, 18, 16],
'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
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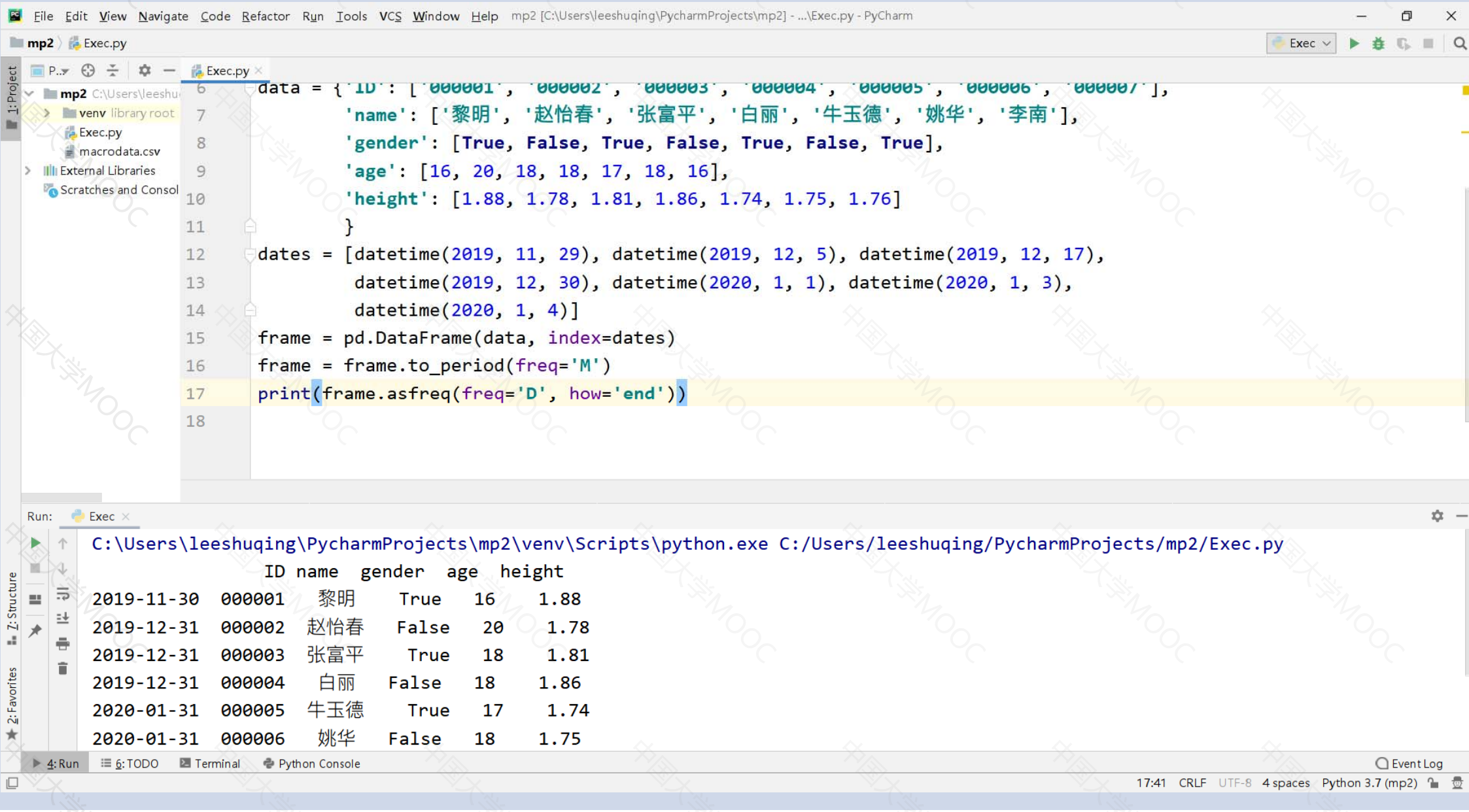
datetime(2020, 1, 4)]
frame = pd.DataFrame(data, index=dates)
frame = frame.to_period(freq='M')
print(frame.to_timestamp(how='end'))
Run: Exec
C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
ID name gender age height
2019-11-30 23:59:59.999999999 000001 黎明 True 16 1.88
2019-12-31 23:59:59.999999999 000002 赵怡春 False 20 1.78
2019-12-31 23:59:59.999999999 000003 张富平 True 18 1.81
2019-12-31 23:59:59.999999999 000004 白丽 False 18 1.86
2020-01-31 23:59:59.999999999 000005 牛玉德 True 17 1.74
2020-01-31 23:59:59.999999999 000006 姚华 False 18 1.75
4: Run
6: TODO
Terminal
Python Console
Event Log
17:37 CRLF UTF-8 4 spaces Python 3.7 (mp2)


File Edit View Navigate Code Refactor Run Tools VCS Window Help mp2 [C:\Users\leeshuqing\PycharmProjects\mp2] - ...\Exec.py - PyCharm
mp2 Exec.py
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'age': [16, 20, 18, 18, 17, 18, 16],
'height': [1.88, 1.78, 1.81, 1.86, 1.74, 1.75, 1.76]
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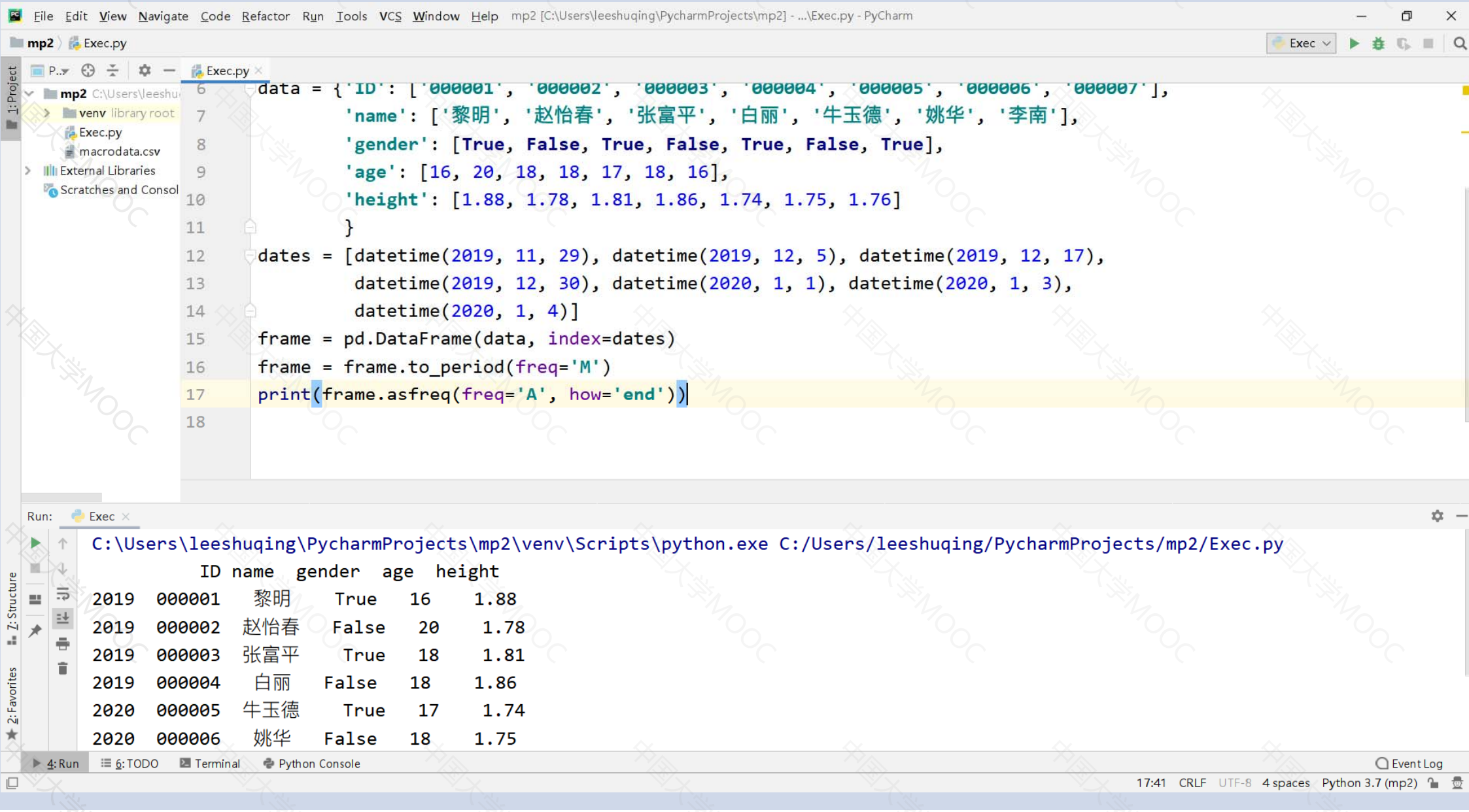
datetime(2019, 12, 30), datetime(2020, 1, 1), datetime(2020, 1, 3),
datetime(2020, 1, 4)]
frame = pd.DataFrame(data, index=dates)
frame = frame.to_period(freq='M')
print(frame.asfreq(freq='D', how='end'))
Run: Exec
C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
ID name gender age height
2019-11-30 000001 黎明 True 16 1.88
2019-12-31 000002 赵怡春 False 20 1.78
2019-12-31 000003 张富平 True 18 1.81
2019-12-31 000004 白丽 False 18 1.86
2020-01-31 000005 牛玉德 True 17 1.74
2020-01-31 000006 姚华 False 18 1.75
4: Run
6: TODO
Terminal
Python Console
Event Log
17:41 CRLF UTF-8 4 spaces Python 3.7 (mp2)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mp2 Exec.py
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frame = pd.DataFrame(data, index=dates)
frame = frame.to_period(freq='M')
print(frame.asfreq(freq='A', how='end'))
Run: Exec
C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
ID name gender age height
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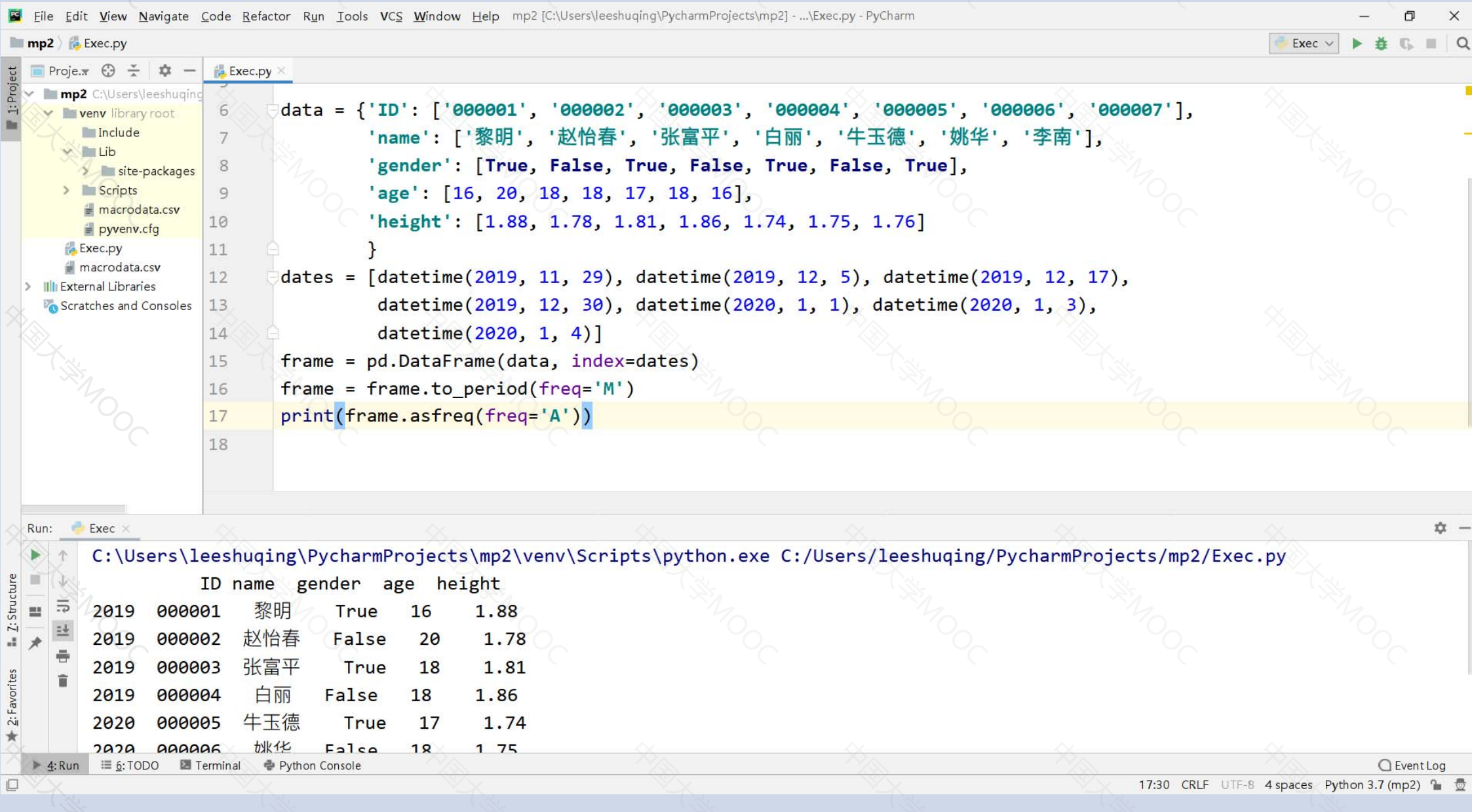
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mp2 Exec.py
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mp2 C:\Users\leeshuqing
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Include
Lib
site-packages
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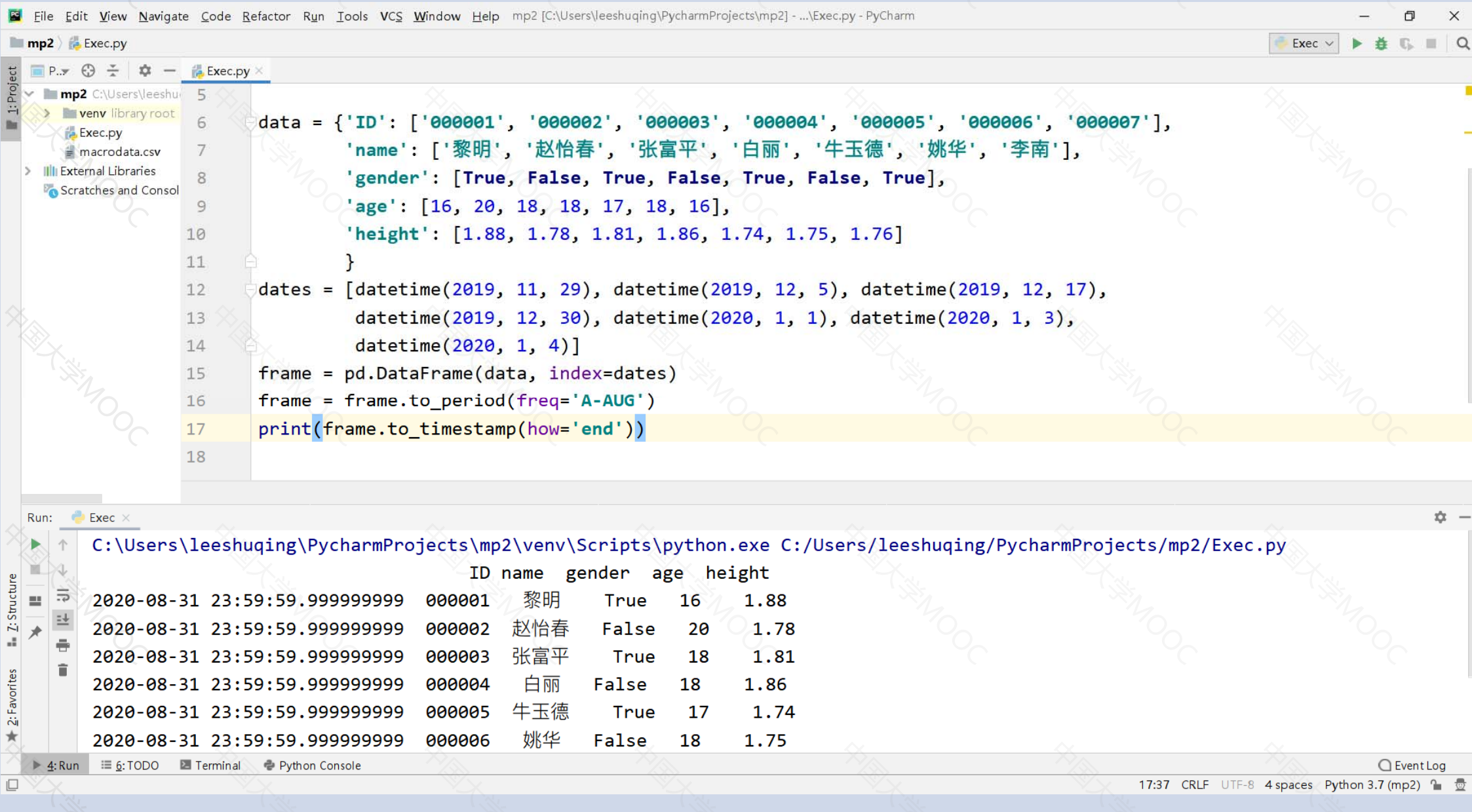
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ID name gender age height
2020-08-31 23:59:59.999999999 000001 黎明 True 16 1.88
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2020-08-31 23:59:59.999999999 000006 姚华 False 18 1.75
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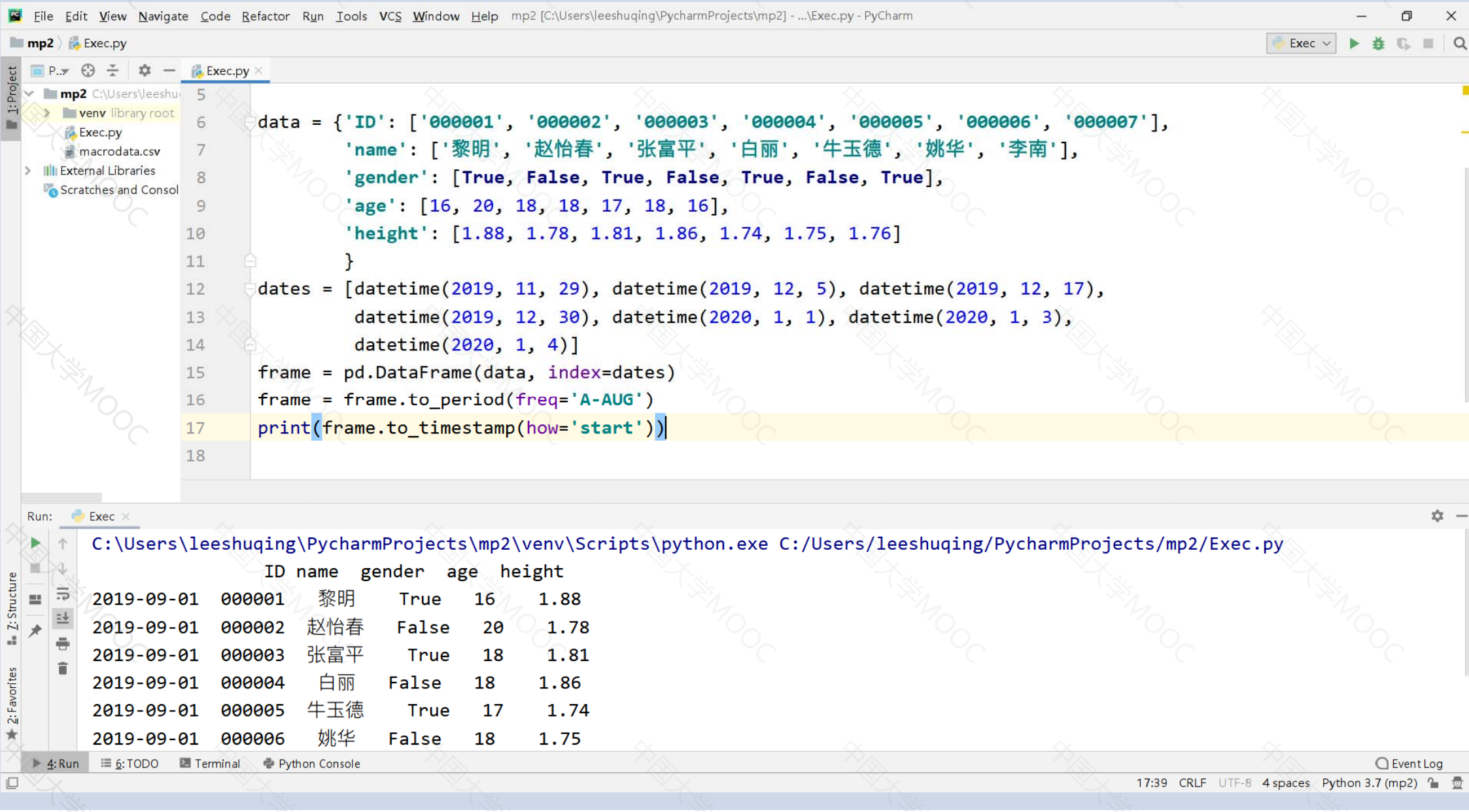
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17 print(frame.to_timestamp(how='start'))
18
Run: Exec
C:\Users\leeshuqing\PycharmProjects\mp2\venv\Scripts\python.exe C:/Users/leeshuqing/PycharmProjects/mp2/Exec.py
ID name gender age height
2019-09-01 000001 黎明 True 16 1.88
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2019-09-01 000004 白丽 False 18 1.86
2019-09-01 000005 牛玉德 True 17 1.74
2019-09-01 000006 姚华 False 18 1.75
4: Run
6: TODO
Terminal
Python Console
Event Log
17:39 CRLF UTF-8 4 spaces Python 3.7 (mp2)

一次不学多，下次再学

中国大学MOOC