

74+戴一帆+211205102388

作业7

戴一帆

2022年4月21号

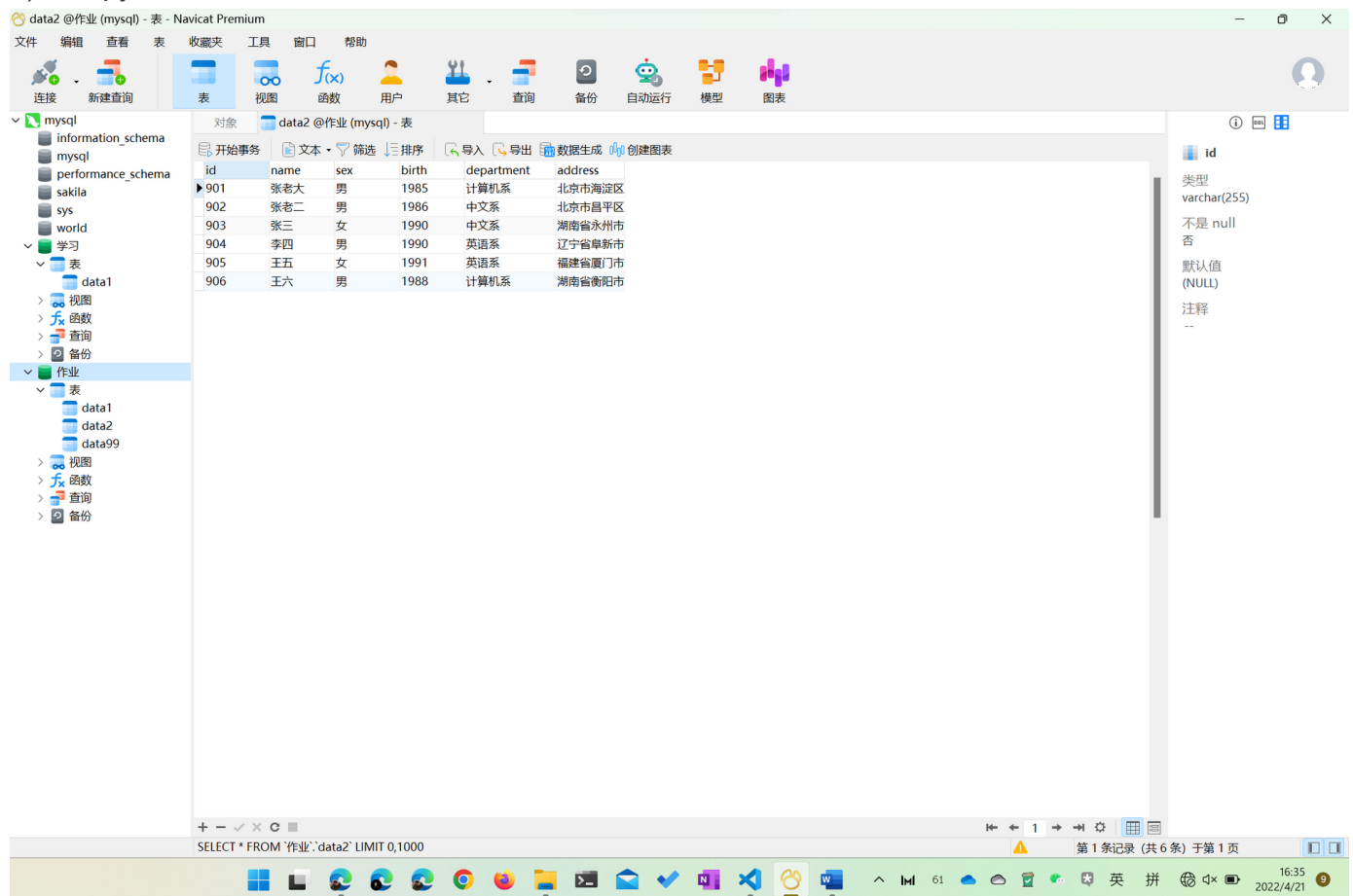
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1. 创建data2表

要求：

a) 使用python连接SQL语句创建一个叫data2的表；

b) 使用python连接SQL语句将数据插入到表data2中;



利用pymysql模块连接，打开游标，利用create table...创建data2并运行sql查看；其次利用insert into ~ () values () 向data2里添加数据，然后运行提交，关闭游标退出连接。

```
import pymysql
conn = pymysql.connect(host = "localhost", user = "root", password = "1024",
                        db = "作业", charset='utf8') ##连接
cur = conn.cursor() # 游标
##手动创建一个表格
sql = '''CREATE TABLE `data2` (
  `id` varchar(255) DEFAULT NULL,
  `name` varchar(255) DEFAULT NULL,
  `sex` varchar(255) DEFAULT NULL,
  `birth` varchar(255) DEFAULT NULL,
  `department` varchar(255) DEFAULT NULL,
```

```

        `address` varchar(255) DEFAULT NULL
    ) ENGINE = InnoDB DEFAULT
    CHARSET = utf8mb4
    COLLATE = utf8mb4_0900_ai_ci;'''
cur.execute(sql)
result1 = cur.fetchall()
print(result1)

sql = '''INSERT INTO data2 (id,name,sex,birth,department,address) VALUES (901,'张老大','男',1985,'计算机系','北京市海淀区')
'''

sql1 = '''INSERT INTO data2(id, name, sex, birth, department, address) VALUES(902,
'张老二','男',1986,'中文系','北京市昌平区)'''
sql2 = '''INSERT INTO data2(id, name, sex, birth, department, address) VALUES(903,
'张三','女',1990,'中文系','湖南省永州市)'''
sql3 = '''INSERT INTO data2(id, name, sex, birth, department, address) VALUES(904,
'李四','男',1990,'英语系','辽宁省阜新市)'''
sql4 = '''INSERT INTO data2(id, name, sex, birth, department, address) VALUES(905,
'王五','女',1991,'英语系','福建省厦门市)'''
sql5 = '''INSERT INTO data2(id, name, sex, birth, department, address) VALUES(906,
'王六','男',1988,'计算机系','湖南省衡阳市)'''
cur.execute(sql)
cur.execute(sql1)
cur.execute(sql2)
cur.execute(sql3)
cur.execute(sql4)
cur.execute(sql5)
conn.commit()
cur.close() # 关闭游标
conn.close()# 退出连接

```

重新连接data2，运行游标、编写sql、运行ssql查看数据，最后退出

```

import pymysql
conn = pymysql.connect(host = "localhost", user = "root", password = "1024",
                        db = "作业", charset='utf8') ##连接
cur = conn.cursor() # 游标
sql = "select * from data2"
cur.execute(sql)
result2 = cur.fetchall()
print(result2)
cur.close() # 关闭游标
conn.close()# 退出连接

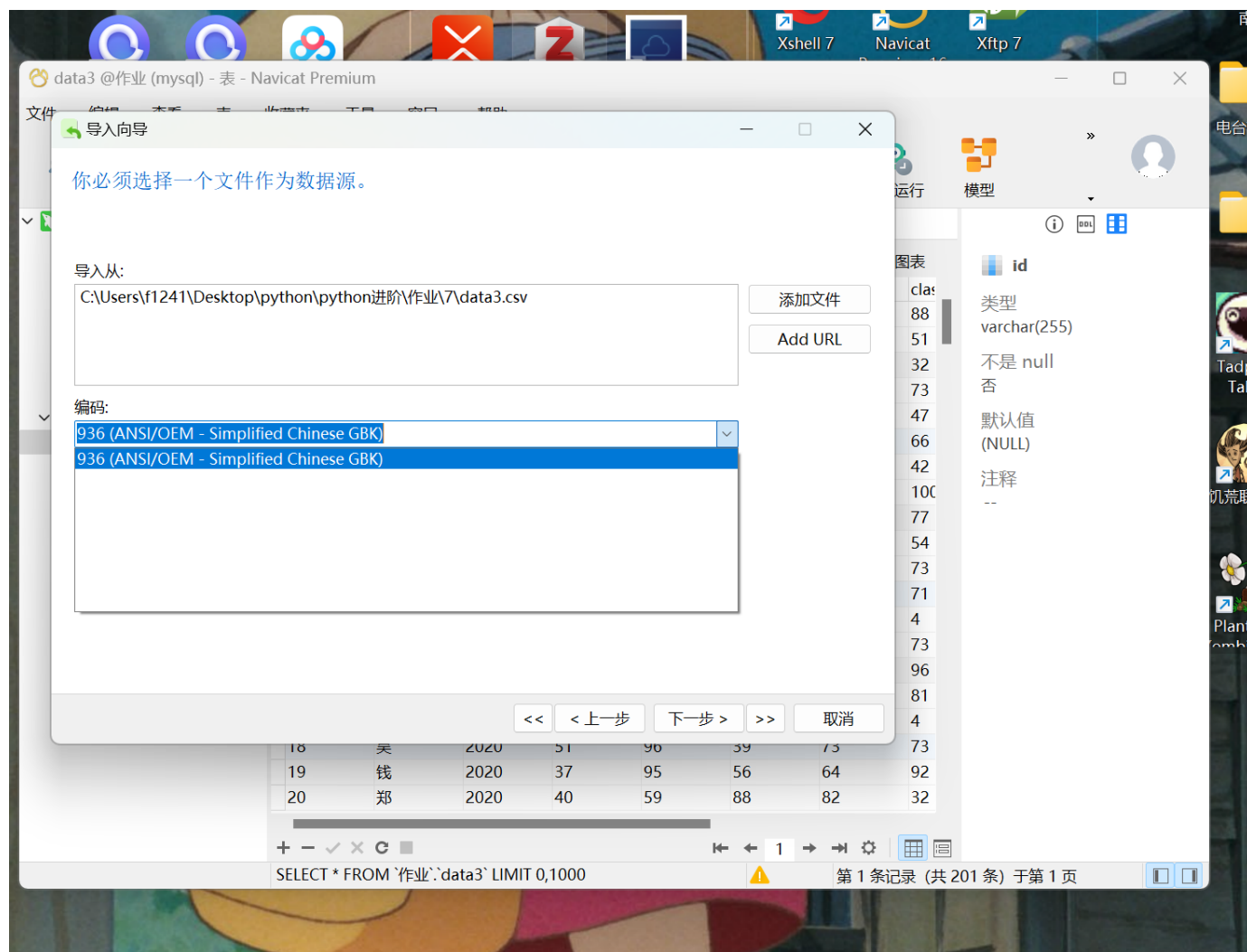
```

2. 将data3.csv的表格导入到mysql中，使用python编写SQL语句

要求：

- a) 列查询：单独挑选出列名为“grade”的数据；
- b) 行查询：查询name等于“吴”的所有数据；
- c) 在表中添加一行数据，数据为(999,吴,2022,19,5,84,84,88,3,99,18)
- d) 条件查询：查询name等于“吴”和列名等于“grade”的数据；
- e) 条件查询：查询2020级中class1的成绩大于95的学生的id和name；
- f) 计算2020级class1~class8所有科目的平均值；
- g) 计算所有年级class1~class8所有科目的平均值；

导入data3




```
cur.close()
conn.close()
```

b、行查询

```
cur = conn.cursor() # 游标
sql = "select * from data3 where name='吴'"
cur.execute(sql)
result = cur.fetchall()
print(result)
```

[5] ✓ 0.5s Python

... ((('1', '吴', '2020', '19', '5', '84', '84', '88', '3', '99', '18'), ('7', '吴', '2020', '5', '48', '9', '1', '42', '99', '5', '34'), ('11', '吴', '2020', '69', '60', '99', '50', '73', '35', '76', '4'), ('13', '吴', '2020', '28', '29', '92', '57', '4', '33', '22', '4'), ('18', '吴', '2020', '51', '96', '39', '73', '73', '33', '44', '68'), ('30', '吴', '2020', '59', '97', '29', '28', '62', '61', '0', '10'), ('35', '吴', '2020', '79', '33', '24', '79', '54', '28', '49', '46'), ('40', '吴', '2020', '36', '40', '62', '75', '12', '4', '20', '62'), ('54', '吴', '2019', '79', '73', '32', '93', '63', '89', '64', '97'), ('59', '吴', '2019', '13', '95', '52', '40', '75', '51', '27', '16'), ('61', '吴', '2019', '33', '33', '48', '81', '57', '49', '28', '33'), ('86', '吴', '2019', '99', '31', '44', '53', '19', '60', '96', '29'), ('93', '吴', '2019', '11', '84', '30', '100', '27', '53', '5', '98'), ('106', '吴', '2018', '23', '0', '95', '32', '76', '66', '85', '36'), ('107', '吴', '2018', '92', '90', '50', '25', '44', '8', '24', '69'), ('108', '吴', '2018', '0', '82', '10', '61', '88', '81', '17', '24'), ('113', '吴', '2018', '78', '48', '63', '15', '7', '60', '22', '0'), ('122', '吴', '2018', '14', '67', '53', '20', '26', '9', '49', '35'), ('123', '吴', '2018', '62', '81', '18', '36', '10', '83', '80', '18'), ('126', '吴', '2018', '92', '39', '50', '78', '4', '48', '78', '96'), ('137', '吴', '2018', '84', '33', '71', '30', '8', '31', '48', '21'), ('143', '吴', '2018', '28', '82', '50', '71', '54', '26', '8', '67'), ('150', '吴', '2018', '18', '99', '22', '95', '26', '11', '35', '67'), ('155', '吴', '2017', '87', '95', '78', '8', '83', '85', '50', '88'), ('167', '吴', '2017', '6', '4', '96', '95', '32', '6', '83', '60'), ('183', '吴', '2017', '54', '64', '93', '52', '99', '64', '29', '48'), ('187', '吴', '2017', '28', '61', '80', '13', '44', '6', '59', '81'), ('190', '吴', '2017', '5', '76', '11', '58', '60', '69', '87', '80'), ('191', '吴', '2017', '20', '79', '32', '69', '9', '69', '80', '49'), ('192', '吴', '2017', '65', '41', '77', '20', '67', '52', '94', '89'), ('197', '吴', '2017', '25', '68', '89', '70', '41', '26', '16', '99'), ('198', '吴', '2017', '24', '38', '16', '41', '55', '72', '71', '62'))

cur.close()

```
import pymysql
conn = pymysql.connect(host = "localhost", user = "root", password = "1024",
                        db = "作业", charset='utf8') ##连接
cur = conn.cursor() # 游标
sql = "select * from data3 where name='吴'"
cur.execute(sql)
result = cur.fetchall()
print(result)
cur.close()
conn.close()
```

c、在表中添加一行数据

```
cur = conn.cursor() # 游标
sql = '''INSERT INTO data3 (id,name,grade,class1,class2,class3,class4,class5,class6,class7,class8) VALUES (999,'吴',2022,19,5,84,84,88,3,99,18)
'''
cur.execute(sql)
conn.commit()
sql1 = "select * from data3 where id = 999"
cur.execute(sql1)
result = cur.fetchall()
print(result)
```

[7] ✓ 0.1s

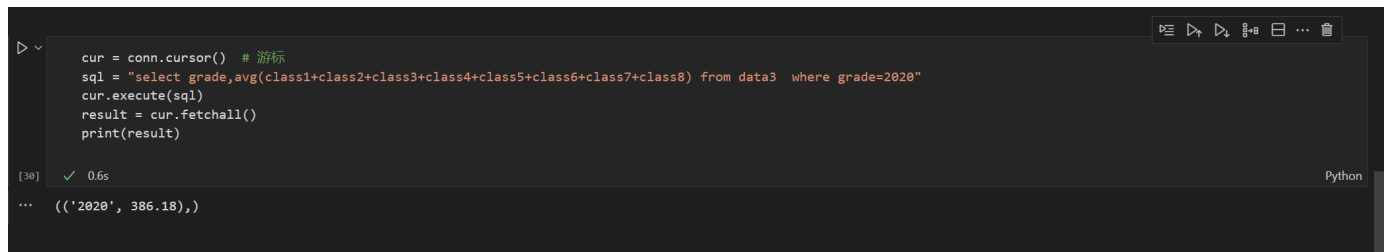
```
import pymysql
conn = pymysql.connect(host = "localhost", user = "root", password = "1024",
                        db = "作业", charset='utf8') ##连接
cur = conn.cursor() # 游标
sql = '''INSERT INTO data3
(id,name,grade,class1,class2,class3,class4,class5,class6,class7,class8) VALUES
```

```
(999, '昊', 2022, 19, 5, 84, 84, 88, 3, 99, 18)
,,,
```

```
import pymysql
conn = pymysql.connect(host = "localhost" , user = "root" , password = "1024" ,
                        db = "作业" , charset='utf8') ##连接
cur = conn.cursor()  # 游标
sql = "select id,grade,name,class1 from data3 where grade=2020 and class1>95"
```

```
cur.execute(sql)
result = cur.fetchall()
print(result)
cur.close()
conn.close()
```

f、计算2020级class1~class8所有科目的平均值



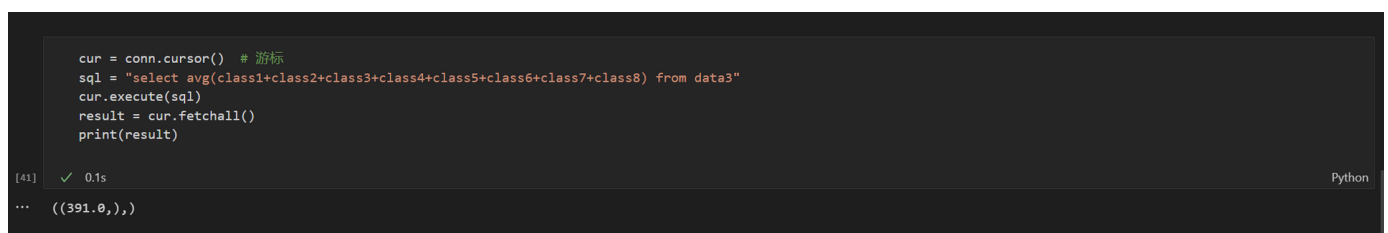
```
cur = conn.cursor() # 游标
sql = "select grade, avg(class1+class2+class3+class4+class5+class6+class7+class8) from data3 where grade=2020"
cur.execute(sql)
result = cur.fetchall()
print(result)
```

[30] ✓ 0.6s Python

... (('2020', 386.18),)

```
import pymysql
conn = pymysql.connect(host = "localhost", user = "root", password = "1024",
                        db = "作业", charset='utf8') ##连接
cur = conn.cursor() # 游标
sql = "select grade, avg(class1+class2+class3+class4+class5+class6+class7+class8) from
data3 where grade=2020"
cur.execute(sql)
result = cur.fetchall()
print(result)
cur.close()
conn.close()
```

g、计算所有年级class1~class8所有科目的平均值



```
cur = conn.cursor() # 游标
sql = "select avg(class1+class2+class3+class4+class5+class6+class7+class8) from data3"
cur.execute(sql)
result = cur.fetchall()
print(result)
```

[41] ✓ 0.1s Python

... ((391.0),)

```
import pymysql
conn = pymysql.connect(host = "localhost", user = "root", password = "1024",
                        db = "作业", charset='utf8') ##连接
cur = conn.cursor() # 游标
sql = "select avg(class1+class2+class3+class4+class5+class6+class7+class8) from
data3"
cur.execute(sql)
result = cur.fetchall()
print(result)
cur.close()
conn.close()
```


附加题

```
import random
u = int(input())
count = u
o = 0
p = 0
while count:
    a = input("请出(石头/剪刀/布):")
    b = ["剪刀", "石头", "布"] # 定义赢的列表
    win_list = [["石头", "剪刀"], ["剪刀", "布"], ["布", "石头"]]
    # 计算机随机选择出
    x = random.choice(b)
    print("你出: ", a)
    print("计算机出: ", x)
    q = "平局"
    w = "恭喜, 你赢了"
    e = "你输了"
    if a in b:
        count -= 1
        if a == x:
            print(q)
        elif [a, x] in win_list:
            print(w)
            o += 1
        else:
            print(e)
            p += 1
    else:
        print("输入错误")
    print("你还剩余机会", count)
    print(o, ":", p)
    if o == (u+1)/2:
        print("玩家胜利")
        break
    elif p == (u+1)/2:
        print("电脑胜利")
        break
```

[28]

✓ 20.4s

Python

... 你出: 剪刀
计算机出: 布
恭喜, 你赢了
你还剩余机会 2
1 : 0
你出: 石头
计算机出: 布
你输了
你还剩余机会 1
1 : 1
你出: 布
计算机出: 布
平局
你还剩余机会 0
1 : 1