Yuwen Sang

COMP 3421 – A7: Python/Connector

E/R Schema of the Auto Insurance Company Database:

Coverage (**coverageID,** cAmount**,** planName**,** price)
States (**stateName,** climate, pDensity)
Driving Records (**recordID,** DRdate, DRtype)
Customers (**customerID**, cname, age, gender, SSN, dlNum, **coverageID, stateName**)
Cars (**VINcode,** brand, color, ctype, **customerID**)
Premium (**premiumID**, paymentPeriod, cAmount**, recordID, customerID**)

Python/Connector Function Description

In connector.py script, the python function DR_PremiumChange will accept a driving record (accident) information, including the date, type, and the accident customer's ID. Then the function will add the record into the DrivingRecords table, and change the customer's premium information in the Premium table.

Code:

```
import mysql.connector


def DR_PremiumChange (customer_id, DR_date, DR_type):
    theCommand = 'select count(*) from customers;'
    myc.execute(theCommand)
    total_customers = 0
    for x in myc:
        total_customers = x[0]
    if customer_id <= total_customers: # can find the related customer information from the
customers table, so start change data
        print('Start change the customer #', customer_id, '\'s driving record & premimum
information..')
        theCommand = 'select count(*) from drivingrecords;'
        myc.execute(theCommand)
        dr_count = 0
        for x in myc:
            dr_count = x[0]
        dr_count += 2
        theCommand = 'insert into drivingrecords values(' + str(dr_count) + ', \'' + DR_date + '\',\'
+ DR_type + '\');'
        myc.execute(theCommand)
```

```
        print('\nSuccessfully added a new driving record! The new added driving record
information is:')

        theCommand = 'select * from drivingrecords where recordID = ' + str(dr_count) + ';'
        myc.execute(theCommand)
        for x in myc:
            print(x)

        testCommand = 'select * from premium where customerID = ' + str(customer_id) +';'
        myc.execute(testCommand)
        print('\nNow change the customer premium information. Before change, the customer
with customerID = ', customer_id, ', whose premium information is:')
        for x in myc:
            print(x)

        # Premium (premiumID, paymentPeriod, cAmount, recordID, customerID)
        theCommand = 'update Premium set recordID = ' + str(dr_count) + ' where customerID =
' + str(customer_id) + ';'
        myc.execute(theCommand)
        for x in myc:
            print(x)
        myc.execute(testCommand)
        print('\n After change, the customer with customerID = ', customer_id, ', whose premium
information is:')
        for x in myc:
            print(x)

        return '\nInformation changed!'
    else:
        return '\nInvalid Customer information'
## function end

# test code start
mydb = mysql.connector.connect(
  user='root',    # could be root, or a user you created, I created 'testuser2'
  passwd='670510',  # the password for that use
  database='exercise7',   # the database to connect to
  host='127.0.0.1',   # localhost
  allow_local_infile=1  # needed so can load local files
)

print(mydb)
myc = mydb.cursor()   # myc name short for "my cursor"

# We need to reset the variable that allows loading of local files
myc.execute('set global local_infile = 1')
```

```
myc.execute("use carinsurance")

myc.execute ("show tables")
for x in myc:
        print(x)

result = DR_PremiumChange (7996, '2020-3-3', 'serious') #8000, 7999, 7998, 7997
print(result)


mydb.commit()
mydb.close()
```

Output Exhibition

As we can see, the function added a new driving record. The code added a new driving record with the recordID = 2006 (primary key) and the related information to the DrivingRecord table, then change the customer 7996's recordID from 'None' to 2006 (means no record ID before).