PostgreSQL-Python Cheat Sheet (Basics)

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import psycopg2

#Establishing the connection to the database and handling exceptions
try:
    connection = psycopg2.connect(database="staff", user = "mihai",
password = "python", host = "127.0.0.1", port = "5432")

except psycopg2.Error as err:
    print("An error was generated!")

else:
    print("Connection to database was successful!")

#Creating a cursor
cursor = conn.cursor()

#Creating a table and defining the attributes for each column
cur.execute('''create table mystaff.employees
      (id int primary key not null,
       first_name varchar(25) not null,
       last_name varchar(25) not null,
       department varchar(25) not null,
       phone varchar(25)
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        address varchar(50),
        salary int);'")


#Inserting data into a table
cursor.execute("insert into mystaff.employees
(id,first_name,last_name,department,phone,address,salary) \
 values (1, 'John', 'Smith', 'Sales', '0123456789', '1st Street, Miami', 50000),
\
        (2, 'Jack', 'Doe', 'IT', '0213456742', '2nd Street, NY', 55000), \
        (3, 'Emily', 'Davids', 'Sales', '0123456999', '3rd Street, LA', 59000), \
        (4, 'Karen', 'Willson', 'Logistics', '0823556785', '4th Street, Las Vegas',
41000), \
        (5, 'Emma', 'Richard', 'Marketing', '0423453580', '5th Street, Denver',
40000);")


#Updating the department column for the row(s) where the value on the
last_name column is Doe
cursor = connection.cursor()
cursor.execute("update mystaff.employees set department = 'Logistics'
where last_name = 'Doe';")


#Deleting all the records in the database for which the value in the salary
column is greater than 50000
cursor = connection.cursor()
cursor.execute("delete from mystaff.employees where salary > 50000;")
```

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#Querying the database using the cursor
cursor = connection.cursor()

cursor.execute("select * from mystaff.employees where salary > 50000;")
#cursor.execute("select * from mystaff.employees where last_name like '%Richard%';")
#cursor.execute("select * from mystaff.employees where salary between 40000 and 45000;")
#cursor.execute("select * from mystaff.employees where department in ('Sales', 'IT');")

#Fetching all the rows in a query result; returns a list
records = cursor.fetchall()

#Fetching the next 2 rows in a query result; returns a list
records = cursor.fetchmany(size = 2)

#Fetching the next row in a query result; returns a tuple; returns None when no more records are available
records = cursor.fetchone()

#Printing the fetched results to the screen
for record in records:
    print(record)
```

#Commiting (saving) the changes/transactions performed since the last commit()

connection.commit()

#Rolling back (undoing) the changes/transactions performed since the last commit()

connection.rollback()

#Closing the connection to the database

connection.close()