Connect to the Chinook Database

In [4]:
```
#import psycopg2
import sqlalchemy
# we will want Pandas for the data frame structure
import pandas as pd
```

In [5]:
```
# use user bob
engine=sqlalchemy.create_engine('postgresql://bob:pwd1@localhost:5432/bank')
```

In [14]:
```
# Checking to see if I connected to database
pd.read_sql_query("SELECT table_name  FROM information_schema.tables LIMIT 1
```

Out[14]:

	table_name
0	account
1	pg_type
2	branch
3	business
4	customer
5	department
6	employee
7	individual
8	officer
9	product
10	transaction
11	pg_foreign_table
12	pg_roles
13	pg_settings
14	schemata

Exercise 3-1

Retrieve the employee ID, first name, and last name for all bank employees. Sort by last name and then by first name.

In [15]:
```
pd.read_sql_query("""SELECT emp_id, fname, lname
                     FROM employee
```

```
                    ORDER BY lname, fname;""",engine)
```

Out[15]:

	emp_id	fname	lname
0	2	Susan	Barker
1	13	John	Blake
2	6	Helen	Fleming
3	17	Beth	Fowler
4	5	John	Gooding
5	9	Jane	Grossman
6	4	Susan	Hawthorne
7	12	Samantha	Jameson
8	16	Theresa	Markham
9	14	Cindy	Mason
10	8	Sarah	Parker
11	15	Frank	Portman
12	10	Paula	Roberts
13	1	Michael	Smith
14	7	Chris	Tucker
15	18	Rick	Tulman
16	3	Robert	Tyler
17	11	Thomas	Ziegler

Exercise 3-2

Retrieve the account ID, customer ID, and available balance for all accounts whose status equals 'ACTIVE' and whose available balance is greater than $2,500.

In [16]:
```
pd.read_sql_query("""SELECT account_id, cust_id, avail_balance
                     FROM account
                     WHERE (status = 'ACTIVE') AND avail_balance > 2500;""",
```

Out[16]:

	account_id	cust_id	avail_balance
0	3	1	3000.00
1	12	4	5487.09
2	15	6	10000.00
3	17	7	5000.00
4	18	8	3487.19
5	22	9	9345.55
6	24	10	23575.12
7	27	11	9345.55
8	28	12	38552.05
9	29	13	50000.00

Exercise 3-3

Write a query against the account table that returns the IDs of the employees who opened the accounts (use the account.open_emp_id column). Include a single row for each distinct employee.

In [19]:
```
pd.read_sql_query("""SELECT DISTINCT a.open_emp_id
                     FROM account AS a;""", engine)
```

Out[19]:

	open_emp_id
0	13
1	10
2	1
3	16

Exercise 4-3

Construct a query that retrieves all accounts opened in 2002.

In [22]:
```
pd.read_sql_query("""SELECT account_id, open_date
                     FROM account
                     WHERE EXTRACT(YEAR FROM open_date) = 2002;""", engine)
```

Out[22]:

	account_id	open_date
0	7	2002-11-23
1	8	2002-12-15
2	14	2002-08-24
3	24	2002-09-30
4	25	2002-10-01

In [ ]: