In [17]:
```
"""
Description: This program will use the operations learned from Section 17.2 of the book, CRUD operation
(Check README.md of the repository or the ch17 folder for the exercise example using sqlite).
The folliwing are the tasks required by the exercise 17.1 at page 799 of Chapter 17:

    a) Select all authors last names from the authors table in descending order.
    b) Select all book titles from titles table in ascending order.
    c) Use an INNER JOIN to select all the books for a specific author. Include the title, copyright year and ISBN.
    Order the information alphabetically by title.
    d) Insert a new author into the authors table.
    e) Insert a new title fro an author. Remember taht the book must have an entry i the author_ISBN table
    and an entry in the titles table.

Name: Andrea Marcelli
"""


import pandas as pd
import sqlite3

# Connecting to the database
connection = sqlite3.connect('books.db')
```

In [71]:
```
# pd.options.display.max_columns = 10
# Select all authors last names from the authors table in descending order (a.)
pd.read_sql('SELECT last FROM authors ORDER BY last DESC', connection)
```

Out[71]:

	last
0	Wald
1	Quirk
2	Deitel
3	Deitel
4	Deitel

In [70]:
```
# Select all book titles from titles table in ascending order (b.)
pd.read_sql('SELECT title FROM titles ORDER BY title ASC', connection)
```

Out[70]:

	title
0	Android 6 for Programmers
1	Android How to Program
2	C How to Program
3	C++ How to Program
4	Internet & WWW How to Program
5	Intro to Python for CS and DS
6	Java How to Program
7	New Book Title
8	Visual Basic 2012 How to Program
9	Visual C# How to Program
10	Visual C++ How to Program

In [21]:
```
# Use an INNER JOIN to select all the books for a specific author. Include the title, copyright year and ISBN.
# Order the information alphabetically by title. (c.)
pd.read_sql("""SELECT titles.title, titles.copyright, author_ISBN.isbn FROM titles INNER JOIN author_ISBN ON titles.isbn = author_ISBN.isbn INNE
```

Out[21]:

	title	copyright	isbn
0	Android 6 for Programmers	2016	0134289366
1	Android 6 for Programmers	2016	0134289366
2	Android How to Program	2017	0134444302
3	Android How to Program	2017	0134444302
4	C How to Program	2016	0133976890
5	C How to Program	2016	0133976890
6	C++ How to Program	2017	0134448235
7	C++ How to Program	2017	0134448235
8	Internet & WWW How to Program	2012	0132151006
9	Internet & WWW How to Program	2012	0132151006
10	Internet & WWW How to Program	2012	0132151006
11	Intro to Python for CS and DS	2020	0135404673
12	Intro to Python for CS and DS	2020	0135404673
13	Java How to Program	2018	0134743350
14	Java How to Program	2018	0134743350
15	Visual Basic 2012 How to Program	2014	0133406954
16	Visual Basic 2012 How to Program	2014	0133406954
17	Visual Basic 2012 How to Program	2014	0133406954
18	Visual C# How to Program	2017	0134601548
19	Visual C# How to Program	2017	0134601548
20	Visual C++ How to Program	2008	0136151574
21	Visual C++ How to Program	2008	0136151574

In [36]:
```
# Insert a new author into the authors table (d.)
# To do so we will need a cursor, which using the cursor method gives us the possibility to modify the database
cursor = connection.cursor()
```

In [72]:
```
# Now we can insert a new author inside the authors table
cursor = cursor.execute("""INSERT INTO authors (first, last) VALUES ('Master', 'OTW')""")
```

In [73]:
```
# Let's check quickly if it worked
pd.read_sql('SELECT id, first, last FROM authors', connection, index_col=['id'])
```

Out[73]:

id	first	last
1	Paul	Deitel
2	Harvey	Deitel
3	Abbey	Deitel
4	Dan	Quirk
5	Alexander	Wald
9	Master	OTW

In [74]:
```
# Nice, it worked! Now let's continue with the last step

# Insert a new title for an author.
# Remember taht the book must have an entry i the author_ISBN table and an entry in the titles table. (e.)
cursor = cursor.execute("""INSERT INTO titles (isbn, title, edition, copyright) VALUES ('1711729299', 'Getting Started Becoming a Master Hacker
```

In [77]:
```
# Once create the content for the titles table we will add the content for the author_ISBN table.
# After we will have all three tables updated with the new author first and last name as well as his/her book information
cursor = cursor.execute("""INSERT INTO author_ISBN (id, isbn) VALUES (9, "1711729299")""")
```

In [78]:
```
# Let's check quickly if it worked
pd.read_sql("""SELECT titles.title, titles.copyright, author_ISBN.isbn FROM titles INNER JOIN author_ISBN ON titles.isbn = author_ISBN.isbn INNE
```

Out[78]:

	title	copyright	isbn
0	Getting Started Becoming a Master Hacker	2019	1711729299

In [79]:
```
# Once we finished with our program we can close the connection with our database!
connection.close()
```

In [ ]:
```
"""
Great it worked!

If there is need to delete something, using this expression might help
cursor = cursor.execute('DELETE FROM authors WHERE id=9')
cursor = cursor.execute('DELETE FROM titles WHERE isbn=1711729299')
cursor = cursor.execute('DELETE FROM author_ISBN WHERE isbn=1711729299')

Thank you for practicing with me using Big Data, see you soon!
"""
```