

# Python - Work with SQLite database

## Inner join

- Level: Basic

In this example, we illustrate how Python can be used within MatDeck to work with SQLite databases. First we will use the sqlite3 library to establish a connection to the database with a given name, display the 'software' and the 'company' tables data; after that we will use the inner join query to display the software *Name* from the 'software' table and the company *Name* from the 'company' table where the *Number* value in both tables is the same.

## Inner join query

The assignment is to establish a connection to the SQLite Database, display the Name value from the 'software' table and the company *Name* from the 'company' table on rows which the Number values are the same on both tables.

```
DatVal:= "sqlite_database.db"
```

```
Connection Parameters
```

## Code

```
1 #py
2 import sqlite3
3
4 # Connecting to the server
5 conn = sqlite3.connect('sqlite_database.db')
6
7 # Preparing a cursor object
8 cursorObj=conn.cursor()
9
10 #Printing all from the table 'software'
11 cursorObj.execute("SELECT * FROM software")
12 records = cursorObj.fetchall()
13 print("Table 'software' data:")
14 for row in records:
15     print(row)
16 print("\n")
17
18 #Printing all from the table 'company'
19 cursorObj.execute("SELECT * FROM company")
20 records = cursorObj.fetchall()
21 print("Table 'company' data:")
22 for row in records:
23     print(row)
24 print("\n")
25
26 # Selecting the query with inner join
27 cursorObj.execute("SELECT software.Name as 'Software', company.Name as
28 'Company' FROM software JOIN company ON software.Number = company.Number")
29
30 # Displaying the query results
31 records = cursorObj.fetchall()
32 print("Inner join results:")
```

```
32
33 for row in records:
34     print(row)
35
36 # Disconnecting from the server
37 conn.close()
38 ###
```

## Output

```
C:\WINDOWS\system32\cmd.exe
C:\Users\Milos\Desktop\Python Examples\py_db8>python.exe
Table 'software' data:
('NewSoftware', 157)
('NewSoftware', 157)
('ThirdSoftware', 628)
('MatDeck', 1)
('OtherSoftwares', 999)

Table 'company' data:
(1, 'LabDeck', 1)
(2, 'Company 1', 157)
(3, 'Company 2', 456)
(4, 'Company 3', 628)
(5, 'Company 4', 999)
(6, 'Company 5', 1258)

Inner join results:
('MatDeck', 'LabDeck')
('NewSoftware', 'Company 1')
('NewSoftware', 'Company 1')
('ThirdSoftware', 'Company 3')
('OtherSoftwares', 'Company 4')
```