

MatDeck - Work with SQLite database

Inner join

- Level: Basic

In this document, we illustrate how MatDeck can be used to work with SQLite databases. Installing databases can be quite a inconvenience, however SQLite is pre-installed. We will use the `db_connect()` function to establish a connection to the database, and the `db_query()` function to display the software *Name* from the table called "Software" and the company *Name* from the table called "Company" where the *Number* values are the same in both tables.

Inner join query

First, we 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 have the same *Number* values on both tables.

```
DVal := "sqlite"
```

Connection Parameters

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

Query Strings

```
quVal := "SELECT software.Name as 'Software', company.Name as 'Company' FROM"
```

```
quVal += " software JOIN company ON software.Number = company.Number"
```

Connecting To Database

```
conn := db_connect(DVal, "Name", "", 0, "", "", DatVal)
```

Display 'software and 'company' tables Data

```
dat := db_query(conn, "SELECT * FROM Software")
```

```
dat1 := db_query(conn, "SELECT * FROM company")
```

dat =

Name	Number
"NewSoftware"	157
"NewSoftware"	157
"NewSoftware"	157
"ThirdSoftware"	628
"MatDeck"	1
"OtherSoftwares"	999

dat1 =

id	Name	Number
1	"LabDeck"	1
2	"Company 1"	157
3	"Company 2"	456
4	"Company 3"	628
5	"Company 4"	999
6	"Company 5"	1258

Display inner join query results

```
dat2 := db_query(conn, quVal)
```

```
dat2 =
```

Software	Company
"NewSoftware"	"Company 1"
"NewSoftware"	"Company 1"
"NewSoftware"	"Company 1"
"ThirdSoftware"	"Company 3"
"MatDeck"	"LabDeck"
"OtherSoftwares"	"Company 4"

We could also achieve this task using MatDeck script inside the document.

```
1 // A MatDeck program for selecting queries using join (inner join) in
2 // SQLite databases
3 //Connecting to the server
4 conn := db_connect("sqlite", "Name", "", 0, "", "", "sqlite_database.db")
5
6 // Printing all from the table 'software'
7 print("Table 'software' data:")
8 print(db_query(conn, "SELECT * FROM software"))
9 print("\n")
10
11 // Printing all from the table 'company'
12 print("Table 'company' data:")
13 print(db_query(conn, "SELECT * FROM company"))
14 print("\n")
15
16 // Selecting the query with inner join
17 print("Inner join results:")
18 print(db_query(conn, "SELECT software.Name as 'Software', company.Name as
19 'Company' FROM software JOIN company ON software.Number =
20 company.Number"))
21
22 // Disconnecting from the server
23 db_close(conn)
```

Output

MatDeck Console

```
["NewSoftware" 157]
["NewSoftware" 157]
["ThirdSoftware" 628]
["MatDeck" 1]
["OtherSoftwares" 999]

[1 "LabDeck" 1]
[2 "Company 1" 157]
[3 "Company 2" 456]
[4 "Company 3" 628]
[5 "Company 4" 999]
[6 "Company 5" 1258]

["MatDeck" "LabDeck"]
["NewSoftware" "Company 1"]
["NewSoftware" "Company 1"]
["ThirdSoftware" "Company 3"]
["OtherSoftwares" "Company 4"]
```