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 th 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"

$DatVal := $ "sqlite_database.db"

Connection Parameters

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

$$\text{dat2} := \text{db\_query}\left(\text{conn}, \text{quVal}\right)$$

$$\text{dat2} =$$

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

$\vdots$

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

```
1   // A MatDeck program for selecting queries using join (inner join) in
    SQLite databases
2
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:")
    print(db_query(conn, "SELECT software.Name as 'Software', company.Name as
18  'Company' FROM software JOIN company ON software.Number =
    company.Number"))
19
20  // Disconnecting from the server
21  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"]
```