

Connected to Python 3.11.2

```
In [ ]: import sqlite3
connection = sqlite3.connect('books.db')

import pandas as pd
#pd.options.display.max_columns = 10

pd.read_sql('SELECT * FROM authors', connection,
            index_col='id')
```

Out[]:

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

```
In [ ]: pd.read_sql('SELECT * FROM titles', connection)
```

Out[]:

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

```
In [ ]: df = pd.read_sql('SELECT * FROM author_ISBN', connection)
df.head()
```

Out[]:

	id	isbn
0	1	0134289366
1	2	0134289366
2	5	0134289366
3	1	0135404673
4	2	0135404673

```
In [ ]: pd.read_sql("""SELECT title, edition, copyright
                    FROM titles
                    WHERE copyright > '2016'""", connection)
```

Out[]:

	title	edition	copyright
0	Intro to Python for CS and DS	1	2020
1	Java How to Program	11	2018
2	Visual C# How to Program	6	2017
3	C++ How to Program	10	2017
4	Android How to Program	3	2017

```
In [ ]: pd.read_sql("""SELECT id, first, last
                    FROM authors
                    WHERE last LIKE 'D%'""",
                    connection, index_col='id')
```

Out[]:

	first	last
id		
1	Paul	Deitel
2	Harvey	Deitel
3	Abbey	Deitel

```
In [ ]: pd.read_sql('SELECT title FROM titles ORDER BY title ASC',
                    connection)
```

Out[]:

	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	Visual Basic 2012 How to Program
8	Visual C# How to Program
9	Visual C++ How to Program

```
In [ ]: pd.read_sql("""SELECT id, first, last
                    FROM authors
                    ORDER BY last, first""",
                    connection, index_col='id')
```

Out[]:

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

```
In [ ]: pd.read_sql("""SELECT id, first, last
                    FROM authors
                    ORDER BY last DESC, first ASC""",
                    connection, index_col='id')
```

Out[]:

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

```
In [ ]: pd.read_sql("""SELECT isbn, title, edition, copyright
                    FROM titles
                    WHERE title LIKE '%How to Program'
                    ORDER BY title""", connection)
```

Out[]:

	isbn	title	edition	copyright
0	0134444302	Android How to Program	3	2017
1	0133976890	C How to Program	8	2016
2	0134448235	C++ How to Program	10	2017
3	0132151006	Internet & WWW How to Program	5	2012
4	0134743350	Java How to Program	11	2018
5	0133406954	Visual Basic 2012 How to Program	6	2014
6	0134601548	Visual C# How to Program	6	2017
7	0136151574	Visual C++ How to Program	2	2008

```
In [ ]: pd.read_sql(""" SELECT first, last, isbn
                    FROM authors
                    INNER JOIN author_ISBN
                    ON authors.id = author_ISBN.id
                    ORDER BY last, first""", connection).head()
```

Out[]:

	first	last	isbn
0	Abbey	Deitel	0132151006
1	Abbey	Deitel	0133406954
2	Harvey	Deitel	0134289366
3	Harvey	Deitel	0135404673
4	Harvey	Deitel	0132151006

```
In [ ]: cursor = connection.cursor()
cursor = cursor.execute("""INSERT INTO authors (first, last)
                        VALUES ('Sue', 'Red')""")
pd.read_sql('SELECT id, first, last FROM authors',
            connection, index_col='id')
```

Out[]:

	first	last
id		
1	Paul	Deitel
2	Harvey	Deitel
3	Abbey	Deitel
4	Dan	Quirk
5	Alexander	Wald
6	Sue	Red

```
In [ ]: cursor = cursor.execute("""UPDATE authors SET last='Black'
                                WHERE last='Red' AND first='SUE'""")
cursor.rowcount

pd.read_sql('SELECT id, first, last FROM authors',
            connection, index_col='id')
```

Out[]:

	first	last
id		
1	Paul	Deitel
2	Harvey	Deitel
3	Abbey	Deitel
4	Dan	Quirk
5	Alexander	Wald
6	Sue	Red

```
In [ ]: cursor = cursor.execute('DELETE FROM authors WHERE id=6')

cursor.rowcount

pd.read_sql('SELECT id, first, last FROM authors',
            connection, index_col='id')
```

Out[]:

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

```
In [ ]: pd.read_sql("""SELECT title, edition FROM titles
                    ORDER BY edition DESC""", connection).head(3)
```

Out[]:

	title	edition
0	Java How to Program	11
1	C++ How to Program	10
2	C How to Program	8

```
In [ ]: pd.read_sql("""SELECT * FROM authors
                    WHERE first LIKE 'A%'""", connection)
```

Out[]:

	id	first	last
0	3	Abbey	Deitel
1	5	Alexander	Wald

```
In [ ]: pd.read_sql("""SELECT isbn, title, edition , copyright
                    FROM titles
                    WHERE title NOT LIKE '%How to Program'
                    ORDER BY title""", connection)
```

Out[]:

	isbn	title	edition	copyright
0	0134289366	Android 6 for Programmers	3	2016
1	0135404673	Intro to Python for CS and DS	1	2020