SQL using Python and SQLite | Set 2

Databases offer numerous functionalities by which one can manage large amounts of information easily over the web, and high-volume data input and output over a typical file such as a text file. SQL is a query language and is very popular in databases. Many websites use MySQL. SQLite is a “light” version that works over syntax very much similar to SQL.

SQLite is a self-contained, high-reliability, embedded, full-featured, public-domain, SQL database engine. It is the most used database engine in the world wide web.
Python has a library to access SQLite databases, called sqlite3, intended for working with this database which has been included with Python package since version 2.5.

In this article we will discuss, how to query database using commands like Update and Delete and also to visualize data via graphs.
It is recommended to go through SQL using Python | Set 1

Updation and Deletion Operation

```
# code for update operation
import sqlite3

# database name to be passed as parameter
conn = sqlite3.connect('mydatabase.db')

# update the student record
conn.execute("UPDATE Student SET name = 'Sam' where unix='B113059'")
conn.commit()

print "Total number of rows updated :", conn.total_changes

cursor = conn.execute("SELECT * FROM Student")
for row in cursor:
   print row,

conn.close()
```

Run on IDE

Output:

```
Total number of rows updated : 1
(u'B113053', u'Geek', u'2017-01-11 13:53:39', 21.0),
```

```
(u'B113058', u'Saan', u'2017-01-11 13:53:39', 21.0),
(u'B113059', u'Sam', u'2017-01-11 13:53:39', 22.0)
```

```
# code for delete operation
import sqlite3

# database name to be passed as parameter
conn = sqlite3.connect('mydatabase.db')

# delete student record from database
conn.execute("DELETE from Student where unix='B113058'")
conn.commit()
print "Total number of rows deleted :", conn.total_changes

cursor = conn.execute("SELECT * FROM Student")
for row in cursor:
   print row,

conn.close()
```

Run on IDE

Output:

```
Total number of rows deleted : 1
(u'B113053', u'Geek', u'2017-01-11 13:53:39', 21.0),
 (u'B113059', u'Sam', u'2017-01-11 13:53:39', 22.0)
```

Data input by User

```
# code for executing query using input data
import sqlite3

# creates a database in RAM
con = sqlite3.connect(":memory:")
cur = con.cursor()
cur.execute("create table person (name, age, id)")

print ("Enter 5 students names:")
who = [raw_input() for i in range(5)]
print ("Enter their ages respectively:")
age = [int(raw_input()) for i in range(5)]
print ("Enter their ids respectively:")
p_id = [int(raw_input()) for i in range(5)]
n = len(who)

for i in range(n):

    # This is the q-mark style:
    cur.execute("insert into person values (?, ?, ?)", (who[i], age[i], p_id[i]))

    # And this is the named style:
    cur.execute("select * from person")

    # Fetches all entries from table
    print cur.fetchall()
```

Run on IDE

Output:

```
(u'Navin', 34, 113053)
(u'Basu', 42, 113058)
(u'Firoz', 65, 113059)
```

```
(u'Tim', 47, 113060)
(u'Varun', 54, 113061)
```

Graphing with SQLite

```
# graph visualization using matplotlib library
import matplotlib.pyplot as plt

def graph_data(p_id,age):

    # plotting the points
    plt.plot(p_id, age, color='yellow', linestyle='dashed', linewidth = 3,
    marker='*', markerfacecolor='blue', markersize=12)

    # naming the x axis
    plt.xlabel('Persons Id')

    # naming the y axis
    plt.ylabel('Ages')

    # plt.plot(p_id,age)
    plt.show()

print ("Enter 5 students names:")
who = [raw_input() for i in range(5)]
print ("Enter their ages respectively:")
age = [int(raw_input()) for i in range(5)]
print ("Enter their ids respectively:")
p_id = [int(raw_input()) for i in range(5)]

# calling graph function
graph_data(p_id,age)
```

Run on IDE

In this way we can perform such operations using SQL query to communicate with Database and plot a Graph significantly to draw out its characteristic.

SQL using Python | Set 1

SQL using Python | Set 3 (Handling large data)

AFZAL ANSARI

Check out this Author's contributed articles.

If you like GeeksforGeeks and would like to contribute, you can also write an article using contribute.geeksforgeeks.org or mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

GATE CS Corner Company Wise Coding Practice

Python SQL

Login to Improve this Article

Please write to us at contribute@geeksforgeeks.org to report any issue with the above content.

Recommended Posts:

SQL using Python | Set 1
Fetching text from Wikipedia's Infobox in Python
MD5 hash in Python
SHA in Python
Fetch top 10 starred repositories of user on GitHub | Python
How to print without newline in Python?
Python String | ljust(), rjust(), center()
Part of Speech Tagging with Stop words using NLTK in python
Python Basics
numpy.hypot() in Python

(Login to Rate)

0 Average Difficulty : **0/5.0**
No votes yet.

Basic Easy Medium Hard Expert

Add to TODO List

Mark as DONE

Writing code in comment? Please use ide.geeksforgeeks.org, generate link and share the link here.

Load Comments

Share this post!