Introduction to Python II Exercises 04 (sample program answers)

Remember that you can come out with a different way to solve the exercises

At the beginning while you are getting acquainted with programming and Python as a language your objective is to produce a suitable RESULT. As you get more experience, you will be able to apply your python knowledge to write elegant code. But for the time being focus on the results.

1

```
#python II Exercise #4

import sqlite3

#Connect to DB and create cursor

conn = sqlite3.connect('mysqldb01.db')
cur = conn.cursor()

#Get records from user and save them to the db

records = []

for i in range(3):
    #get fields from the user

    bookid = input("Enter Book Id: ")
    booktitle = input("Enter Book Title: ")
    bookcateg = input("Enter Book Category: ")
    bookprice = float(input("Enter Book price: "))

    #create a tuple with the fieds and add it to the list

    record = (bookid, booktitle, bookcateg, bookprice)
    records.append(record)

# writing records to the database

sql = '''INSERT INTO books (bookid, booktitle, bookcateg, bookprice)

         VALUES (?,?,?,?)'''

cur.executemany(sql,records)
conn.commit()


#continue in next page
```

```
# Reading records

sql = 'SELECT * from books'
cur.execute(sql)

record = cur.fetchone()

while record:
    bookid, booktitle, bookcateg, bookprice = record
    print('Book Id: {}, Title: {}, Category: {}, Price: {}'.
    format(bookid, booktitle, bookcateg, bookprice))

    record = cur.fetchone()

conn.close()
```

2

```
import sqlite3
import json

#Connect to DB and create cursor
conn = sqlite3.connect('mysqldb01.db')
cur = conn.cursor()

datalist = []

# Get all records query

sql = 'SELECT * from books'
cur.execute(sql)


#Continues in next page
```

```
# read a record, build the dictionary and add it to a list

record = cur.fetchone()

while record:
    bookid, booktitle, bookcateg, bookprice = record

    datadict = {}
    datadict['bookid'] = bookid
    datadict['booktitle'] = booktitle
    datadict['bookcateg'] = bookcateg
    datadict['bookprice'] = bookprice

    datalist.append(datadict)
    record = cur.fetchone()

with open('books_01.json', 'w') as outfile:
    json.dump(datalist, outfile, indent=4)

conn.commit()
conn.close()
```

2a

```
import sqlite3
import json

conn = sqlite3.connect('mysqldb01.db')

# Specifying row_factory to retrieve data as sqlite3 objects # (similar to
dictionaries)

conn.row_factory = sqlite3.Row
cur = conn.cursor()

datalist = []

# Get all records query

sql = 'SELECT * from books'
cur.execute(sql)

#Continues in next page
```

```
# read a record, build the dictionary and add it to a list

records = cur.fetcall()

# Use a list comprehension to change the type from sqlite3.row to dict

dict_records = [dict(rec) for rec in records]

with open('books_01.json', 'w') as outfile:
    json.dump(dict_records, outfile, indent=4)

conn.commit()
conn.close()
```

2b

```
import sqlite3
import json

#Connect to DB and create cursor

conn = sqlite3.connect('mydb99.db')
conn.row_factory = sqlite3.Row

cur = conn.cursor()

datalist = []

# Get all records query

sql = 'SELECT * from books'
cur.execute(sql)

record = cur.fetchone()

while record:
    datalist.append(dict(record))
    record = cur.fetchone()

with open('books_01.json', 'w') as outfile:
    json.dump(datalist, outfile, indent=4)

conn.commit()
conn.close()
```