Assignment 20 Solutions

1. Set the variable test1 to the string 'This is a test of the emergency text system,' and save test1 to a file named test.txt.

ANS:

In [1]:

```python
test1 = 'This is a test of the emergency text system,'
print(test1)
with open('test.txt','w') as file:
    file.write(test1)
    file.close()
```

This is a test of the emergency text system,

In [2]:

```python
! type test.txt
```

This is a test of the emergency text system,

2. Read the contents of the file test.txt into the variable test2. Is there a difference between test 1 and test 2?\

ANS:

In [3]:

```python
with open('test.txt','r') as file:
    test2 = file.read()

print(test2)
print(test1 == test2)
```

This is a test of the emergency text system,
True

3. Create a CSV file called books.csv by using these lines:

title,author,year
The Weirdstone of Brisingamen,Alan Garner,1960
Perdido Street Station,China Miéville,2000
Thud!,Terry Pratchett,2005
The Spellman Files,Lisa Lutz,2007
Small Gods,Terry Pratchett,1992

In [4]:

```python
import csv
rows =[ ['title','author','year'],
    ['The Weirdstone of Brisingamen','Alan Garner',1960],
    ['Perdido Street Station','China Miéville',2000],
    ['Thud!','Terry Pratchett',2005],
    ['The Spellman Files','Lisa Lutz',2007],
    ['Small Gods','Terry Pratchett',1992]]
with open('books.csv','w',newline='') as file:
    writer = csv.writer(file)
    writer.writerows(rows)
```

4. Use the sqlite3 module to create a SQLite database called books.db, and a table called books with these fields: title (text), author (text), and year (integer)

ANS:

In [ ]:

```python
import sqlite3
db = sqlite3.connect('books.db')
cursor = db.cursor()
cursor.execute("CREATE TABLE books (title text, author text, year int)")
db.commit()
db.close()
```

5. Read books.csv and insert its data into the book table.

ANS:

In [6]:

```python
import sqlite3
import csv
conn = sqlite3.connect("books.db")
cursor = conn.cursor()
with open("books.csv","r") as file:
    books = csv.DictReader(file)
    for book in books:
        cursor.execute("INSERT INTO books VALUES (?,?,?)",(book['title'],book['author']
conn.commit()
conn.close()
```

6. Select and print the title column from the book table in alphabetical order.

ANS:

In [7]:

```python
import sqlite3
conn = sqlite3.connect('books.db')
cursor = conn.cursor()
output = cursor.execute("SELECT title FROM books ORDER BY title ASC")
for ele in output:
    print(ele[0])
conn.commit()
conn.close()
```

```
Perdido Street Station
Perdido Street Station
Perdido Street Station
Perdido Street Station
Small Gods
Small Gods
Small Gods
Small Gods
The Spellman Files
The Spellman Files
The Spellman Files
The Spellman Files
The Weirdstone of Brisingamen
The Weirdstone of Brisingamen
The Weirdstone of Brisingamen
The Weirdstone of Brisingamen
Thud!
Thud!
Thud!
Thud!
```

7. From the book table, select and print all columns in the order of publication.

ANS:

In [8]:

```python
import sqlite3
conn = sqlite3.connect('books.db')
cursor = conn.cursor()
ouput = cursor.execute("SELECT * FROM books ORDER BY year")
for record in ouput:
    print(record)
```

```
('The Weirdstone of Brisingamen', 'Alan Garner', 1960)
('The Weirdstone of Brisingamen', 'Alan Garner', 1960)
('The Weirdstone of Brisingamen', 'Alan Garner', 1960)
('The Weirdstone of Brisingamen', 'Alan Garner', 1960)
('Small Gods', 'Terry Pratchett', 1992)
('Small Gods', 'Terry Pratchett', 1992)
('Small Gods', 'Terry Pratchett', 1992)
('Small Gods', 'Terry Pratchett', 1992)
('Perdido Street Station', 'China Miéville', 2000)
('Perdido Street Station', 'China Miéville', 2000)
('Perdido Street Station', 'China Miéville', 2000)
('Perdido Street Station', 'China Miéville', 2000)
('Thud!', 'Terry Pratchett', 2005)
('Thud!', 'Terry Pratchett', 2005)
('Thud!', 'Terry Pratchett', 2005)
('Thud!', 'Terry Pratchett', 2005)
('The Spellman Files', 'Lisa Lutz', 2007)
('The Spellman Files', 'Lisa Lutz', 2007)
('The Spellman Files', 'Lisa Lutz', 2007)
('The Spellman Files', 'Lisa Lutz', 2007)
```

8. Use the sqlalchemy module to connect to the sqlite3 database books.db that you just made in exercise 6.

ANS:

In [11]:

```python
import sqlalchemy
conn = sqlalchemy.create_engine('sqlite:///books.db')
conn
```

Out[11]:

```
Engine(sqlite:///books.db)
```

9. Install the Redis server and the Python redis library (pip install redis) on your computer. Create a Redis hash called test with the fields count (1) and name ('Fester Bestertester'). Print all the fields for test.

ANS:

In [10]:

```
1  ! python -m pip install redis
```

Requirement already satisfied: redis in c:\users\abhik\anaconda3\lib\site-pa
ckages (4.3.5)
Requirement already satisfied: packaging>=20.4 in c:\users\abhik\anaconda3\l
ib\site-packages (from redis) (21.0)
Requirement already satisfied: async-timeout>=4.0.2 in c:\users\abhik\anacon
da3\lib\site-packages (from redis) (4.0.2)
Requirement already satisfied: pyparsing>=2.0.2 in c:\users\abhik\anaconda3
\lib\site-packages (from packaging>=20.4->redis) (3.0.4)

In [ ]:

```
1  # import redis
2  # conn = redis.Redis()
3  # conn.delete('test')
4  # conn.hset('test',mapping = {'count' : 1, 'name' : 'Fester Bestertester'})
5  # #conn.hset('test',key =  1, value = 'Fester Bestertester')
6  # conn.hgetall('test')
```

In [ ]:

```
1  import redis
2  conn = redis.Redis()
3  conn.delete('test')
4  conn.hmset('test', {'count': 1, 'name': 'Fester Bestertester'})
5  conn.hgetall('test')
```

10. Increment the count field of test and print it.

ANS:

In [ ]:

```
1  conn.hincrby('test','count', 3)
```