# Assignment 20

#### 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.

**Answer:**

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,

*# read the contents of test.txt*  
! 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?

**Answer:**

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:

**Answer:**

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

data = '''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') as file:  
 file.write(data)

#### 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).

**Answer:**

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 books table.

**Answer:**

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'],book['year']))  
conn.commit()  
conn.close()

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

**Answer:**

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  
Small Gods  
The Spellman Files  
The Weirdstone of Brisingamen  
Thud!

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

**Answer:**

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)  
('Small Gods', 'Terry Pratchett', 1992)  
('Perdido Street Station', 'China Miéville', 2000)  
('Thud!', 'Terry Pratchett', 2005)  
('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.

**Answer:**

import sqlalchemy  
conn = sqlalchemy.create\_engine('sqlite:///books.db')  
conn

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.

**Answer:**

! python -m pip install redis

Requirement already satisfied: redis in c:\programdata\anaconda3\lib\site-packages (3.5.3)

import redis  
conn = redis.Redis()  
conn.hset('test',{  
 'count':1,  
 'name':'Fester Bestertester'  
})  
conn.hgetall('test')

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

**Answer:**

conn.hincrby('test', 'count', 1)  
conn.hget('test', 'count')

b'13'