**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.

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?

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

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).

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.

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.

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.

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.

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.

! 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.

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

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

b'13'