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,'

with open('test.txt', 'w') as file:

file.write(test1)

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(test1 == test2)

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

import csv

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', newline='') as file:

writer = csv.writer(file)

writer.writerows(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

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

cursor = conn.cursor()

cursor.execute('''

CREATE TABLE books (

title TEXT,

author TEXT,

year INTEGER

)

''')

conn.commit()

conn.close()

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

import csv

import sqlite3

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

cursor = conn.cursor()

with open('books.csv', 'r', newline='') as file:

reader = csv.reader(file)

next(reader) # Skip the header row

for row in reader:

cursor.execute('INSERT INTO books VALUES (?, ?, ?)', row)

conn.commit()

conn.close()

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

import sqlite3

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

cursor = conn.cursor()

cursor.execute('SELECT title FROM books ORDER BY title')

titles = cursor.fetchall()

for title in titles:

print(title[0])

conn.close()

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

import sqlite3

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

cursor = conn.cursor()

cursor.execute('SELECT \* FROM books ORDER BY year')

books = cursor.fetchall()

for book in books:

print(book)

conn.close()

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

from sqlalchemy import create\_engine, MetaData, Table

engine = create\_engine('sqlite:///books.db')

metadata = MetaData()

books = Table('books', metadata, autoload=True, autoload\_with=engine)

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.

import redis

r = redis.Redis(host='localhost', port=6379, db=0)

r.hset('test', 'count', 1)

r.hset('test', 'name', 'Fester Bestertester')

fields = r.hgetall('test')

for field, value in fields.items():

print(field, value.decode('utf-8'))

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

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

print(r.hget('test', 'count').decode('utf-8'))