**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) # Should print 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**

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

**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

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

csv\_reader = csv.reader(file)

next(csv\_reader) # Skip header row

data\_to\_insert = [row for row in csv\_reader]

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

cursor = conn.cursor()

cursor.executemany('INSERT INTO books (title, author, year) VALUES (?, ?, ?)', data\_to\_insert)

conn.commit()

conn.close()

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

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.**

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

cursor = conn.cursor()

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

books = cursor.fetchall()

for book in books:

print(f"Title: {book[0]}, Author: {book[1]}, Year: {book[2]}")

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

engine = create\_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.**

import redis

# Connect to the Redis server

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

# Create the Redis hash

r.hmset('test', {'count': 1, 'name': 'Fester Bestertester'})

# Print all fields of the hash

hash\_data = r.hgetall('test')

for field, value in hash\_data.items():

print(f"{field.decode('utf-8')}: {value.decode('utf-8')}")

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

# Increment the 'count' field by 1

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

# Print the updated count value

updated\_count = r.hget('test', 'count')

print(f"Updated Count: {updated\_count.decode('utf-8')}")