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()

# Check if test1 and test2 are the same

print(test1 == test2)

There should be no difference between test1 and 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

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

file.write('title,author,year\n')

file.write('The Weirdstone of Brisingamen,Alan Garner,1960\n')

file.write('Perdido Street Station,China Miéville,2000\n')

file.write('Thud!,Terry Pratchett,2005\n')

file.write('The Spellman Files,Lisa Lutz,2007\n')

file.write('Small Gods,Terry Pratchett,1992\n')

```

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

# Connect to SQLite database

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

# Create a cursor object

cursor = conn.cursor()

# Create books table

cursor.execute('''CREATE TABLE IF NOT EXISTS books

(title TEXT, author TEXT, year INTEGER)''')

# Commit changes and close connection

conn.commit()

conn.close()

```

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

import csv

# Connect to SQLite database

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

cursor = conn.cursor()

# Read and insert data from CSV into books table

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

reader = csv.reader(file)

next(reader) # Skip header

for row in reader:

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

# Commit changes and close connection

conn.commit()

conn.close()

```

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

# Connect to SQLite database

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

cursor = conn.cursor()

# Select and print title column in alphabetical order

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

titles = cursor.fetchall()

for title in titles:

print(title[0])

# Close connection

conn.close()

```

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

# Connect to SQLite database

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

cursor = conn.cursor()

# Select and print all columns in the order of publication

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

books = cursor.fetchall()

for book in books:

print(book)

# Close connection

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

# Connect to SQLite database using SQLAlchemy

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 Redis server

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

# Create Redis hash

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

# Print all fields for test

print(r.hgetall('test'))

```

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

# Increment the count field of test

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

# Print the incremented count

print(r.hget('test', 'count'))

```