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.

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.

```python

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?

Read the contents of the file test.txt into the variable test2. Is there a difference between test 1 and test 2?

```python

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

test2 = file.read()

print(test1 == test2) # True

```

There is 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

Create a CSV file called books.csv by using these lines:

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Perdido Street Station,China Miéville,2000

Thud!,Terry Pratchett,2005

The Spellman Files,Lisa Lutz,2007

Small Gods,Terry Pratchett,1992

```python

import csv

books = [['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(books)

```

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).

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).

```python

import sqlite3

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

c = conn.cursor()

c.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.

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

```python

import csv

import sqlite3

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

c = conn.cursor()

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

reader = csv.reader(file)

next(reader) # skip header row

for row in reader:

c.execute("INSERT INTO books VALUES (?, ?, ?)", row)

conn.commit()

conn.close()

```

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

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

```python

import sqlite3

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

c = conn.cursor()

c.execute("SELECT title FROM books ORDER BY title ASC")

for row in c.fetchall():

print(row[0])

conn.close()

```

Output:

```

Perdido Street Station

Small Gods

The Spellman Files

Thud!

The Weirdstone of Brisingamen

```

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

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

```python

import sqlite3

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

c = conn.cursor()

c.execute("SELECT \* FROM books ORDER BY year ASC")

for row in c.fetchall():

print(row)

conn.close()

```

Output:

```

('The Weirdstone of Brisingamen', 'Alan Garner', 1960)

('Small Gods', 'Terry Pratchett', 1992)

('Perdido Street Station', 'China Miéville', 2000)

('Thud!', 'Terry

Here are the solutions for exercises 8 to 10:

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

```python

import sqlalchemy

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

connection = engine.connect()

result = connection.execute('SELECT title FROM books ORDER BY title ASC')

for row in result:

print(row[0])

```

This code connects to the SQLite database 'books.db', executes a SELECT statement to retrieve all the titles from the 'books' table in alphabetical order, and prints them to the console.

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

import redis

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

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

print(r.hgetall('test'))

```

This code creates a Redis hash called 'test' with two fields: 'count' with a value of 1 and 'name' with a value of 'Fester Bestertester'. It then retrieves all the fields from the 'test' hash using the hgetall() method and prints them to the console.

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

```python

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

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

```

This code increments the 'count' field of the 'test' hash by 1 using the hincrby() method, and then retrieves the value of the 'count' field using the hget() method and prints it to the console.