**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.**

Ans-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?**

Ans-Read the contents of the file test.txt into the variable test2. Is there a difference between test1 and test2.

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

test2 = file.read()

# Compare the two variables

if test1 == test2:

print("test1 and test2 are the same.")

else:

print("test1 and test2 are different.")

**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**

Ans-Create a CSV file called books.csv with the given lines:

import csv

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', newline='') as file:

writer = csv.writer(file)

writer.writerows(lines)

**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).**

Ans-Use the sqlite3 module to create a SQLite database called books.db and a table called books with fields: title (text), author (text), and year (integer).

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.**

Ans-Code to read books.csv and insert its data into the book table:

import csv

import sqlite3

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

c = conn.cursor()

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

reader = csv.reader(f)

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.**

Ans-Code to select and print the title column from the book table in alphabetical order:

import sqlite3

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

c = conn.cursor()

for row in c.execute('SELECT title FROM books ORDER BY title'):

print(row[0])

conn.close()

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

Ans-Code to select and print all columns in the order of publication:

import sqlite3

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

c = conn.cursor()

for row in c.execute('SELECT \* FROM books ORDER BY year'):

print(row)

conn.close()

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

Ans-Code to use the sqlalchemy module to connect to the sqlite3 database books.db:

from sqlalchemy import create\_engine

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

connection = engine.connect()

connection.close()

**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.**

Ans-Code to create a Redis hash called test with the fields count (1) and name ('Fester Bestertester'), and print all the fields:

import redis

r = redis.Redis()

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

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

print(r.hgetall('test'))

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

Ans-Code to increment the count field of test and print it:

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

print(count)