**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 – test1 = ‘ This is a test of the emergency text system’

with open(‘text.txt’, ‘ w’ ) as files:

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

test2 = file.read()

# Comparing test1 and test2

if test1 == test2:

print("The contents of test1 and test2 are the same.")

else:

print("There is a difference between the contents of 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**

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 csvfile:

writer = csv.writer(csvfile)

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 - import sqlite3

# Connection

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

cursor = connection.cursor()

# Creating the 'books' table

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

title TEXT,

author TEXT,

year INTEGER

)''')

# Commiting the changes

connection.commit()

print("Database and table created successfully.")

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') as file:

csv\_reader = csv.reader(file)

next(csv\_reader) # Skip the header row

for row in csv\_reader:

title, author, year = row

cursor.execute("INSERT INTO books (title, author, year) VALUES (?, ?, ?)", (title, author, year))

conn.commit()

**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 ASC")

rows = cursor.fetchall()

for row in rows:

print(row[0])

**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 ASC")

rows = cursor.fetchall()

for row in rows:

print(row)

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

Ans - from sqlalchemy import create\_engine

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

connection = engine.connect()

print("Connected to the books.db database using SQLAlchemy.")

**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.**

Pip install redis

import redis

r = redis.Redis()

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

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

fields = r.hgetall("test")

for field, value in fields.items():

print(field.decode(), value.decode())

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

Ans -import redis

r = redis.Redis()

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

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

print(f"Updated count: {count.decode()}")