**ANSWERS**

**Q1. 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.** Please find below the code:

test1 = 'This is a test of the emergency text system,'

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

file.write(test1)

**Q2. Read the contents of the file test.txt into the variable test2. Is there a difference between test 1 and test 2?**

**Ans.** Please find below the code:

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

test2 = file.read()

# Check if there's any difference

print(test1 == test2) # Should print True

**Q3. 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.** Please find below the code:

Create a file named books.csv with the following content:

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

**Q4. 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.** Please find below the code:

import sqlite3

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

cursor = conn.cursor()

cursor.execute('''

CREATE TABLE IF NOT EXISTS books (

title TEXT,

author TEXT,

year INTEGER

)

''')

conn.commit()

conn.close()

**Q5. Read books.csv and insert its data into the book table.**

**Ans.** Please find below the code:

import csv

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

cursor = conn.cursor()

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

csv\_reader = csv.reader(csv\_file)

next(csv\_reader) # Skip header row

for row in csv\_reader:

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

conn.commit()

conn.close()

**Q6. Select and print the title column from the book table in alphabetical order.**

**Ans.** Please find below the code:

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()

**Q7. From the book table, select and print all columns in the order of publication.**

**Ans.** Please find below the code:

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

cursor = conn.cursor()

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

books = cursor.fetchall()

for book in books:

print(book)

conn.close()

**Q8. Use the sqlalchemy module to connect to the sqlite3 database books.db that you just made in exercise 6.**

**Ans.** Please find below the code:

from sqlalchemy import create\_engine

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

connection = engine.connect()

**Q9. 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.** Make sure you have the Redis server running. Then, execute the following:

import redis

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

redis\_client.hset('test', 'count', 1)

redis\_client.hset('test', 'name', 'Fester Bestertester')

fields = redis\_client.hgetall('test')

for field, value in fields.items():

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

**Q10. Increment the count field of test and print it.**

**Ans.** Please find below the code:

new\_count = redis\_client.hincrby('test', 'count', 1)

print(f"Updated count: {new\_count}")

Make sure to execute these code snippets in order, as they build upon each other. Remember to have the required modules installed (sqlite3, sqlalchemy, and redis).

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