 **Write a string to a file named test.txt:**

python

Copy code

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

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

file.write(test1)

 **Read the contents of test.txt into test2 and compare:**

python

Copy code

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

test2 = file.read()

print(test1 == test2) # Should print True if there are no differences

* test1 and test2 should be the same if there were no errors while writing and reading.

 **Create a CSV file books.csv:**

python

Copy code

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)

 **Create a SQLite database books.db and a table books:**

python

Copy code

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()

 **Read books.csv and insert data into the books table:**

python

Copy code

import csv

import sqlite3

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

c = conn.cursor()

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

reader = csv.DictReader(file)

for row in reader:

c.execute('''

INSERT INTO books (title, author, year)

VALUES (?, ?, ?)

''', (row['title'], row['author'], int(row['year'])))

conn.commit()

conn.close()

 **Select and print the title column from the books table in alphabetical order:**

python

Copy code

import sqlite3

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

c = conn.cursor()

c.execute('SELECT title FROM books ORDER BY title')

titles = c.fetchall()

for title in titles:

print(title[0])

conn.close()

 **Select and print all columns in the order of publication:**

python

Copy code

import sqlite3

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

c = conn.cursor()

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

rows = c.fetchall()

for row in rows:

print(row)

conn.close()

 **Use SQLAlchemy to connect to books.db:**

python

Copy code

from sqlalchemy import create\_engine, MetaData, Table

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

metadata = MetaData()

metadata.reflect(bind=engine)

books\_table = Table('books', metadata, autoload\_with=engine)

print(books\_table.columns.keys()) # Should print ['title', 'author', 'year']

 **Install Redis server and Python redis library, create a Redis hash, and print fields:**

* **Install Redis Server:**
  + Follow the installation guide for Redis based on your operating system: Redis Installation
* **Install Python redis library:**

bash

Copy code

pip install redis

* **Create a Redis hash and print fields:**

python

Copy code

import redis

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

r.hset('test', mapping={'count': 1, 'name': 'Fester Bestertester'})

test = r.hgetall('test')

# Decode from bytes to string

test = {k.decode('utf-8'): v.decode('utf-8') for k, v in test.items()}

print(test) # Outputs: {'count': '1', 'name': 'Fester Bestertester'}

 **Increment the count field of test and print it:**

python

Copy code

import redis

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

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

updated\_test = r.hgetall('test')

# Decode from bytes to string

updated\_test = {k.decode('utf-8'): v.decode('utf-8') for k, v in updated\_test.items()}

print(updated\_test) # Should show updated count