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.

```
test1 = 'This is a test of the emergency text system,'
f = open('test.text','w')
f.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?

Note : File has to be closed else it will be empty else Both are same.

```
test1 = 'This is a test of the emergency text system,'
f = open('test.text','w')
f.write(test1)
f.close()
file2 = open('test.text','r')
test2 = file2.read()
print(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
```

```
csvFilecontent = [['title','author','year'],['he
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]]

text = '''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.writerow(csvFilecontent)
```

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).

```
import sqlite3


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

c = conn.cursor()


c.execute('create table books(title varchar(20),author
varchar(20), year int)')

conn.commit()
```

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

```
import pandas as pd
```

```
read_books =
pd.read_csv('books.csv',encoding='unicode_escape')
read_books.to_sql('books', conn, if_exists='append',
index = False)
```

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

```
c.execute('select title from books order by title asc')
print(c.fetchall())
```

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

```
df = pd.DataFrame(c.fetchall(),
columns=['title','author','year'])
df
```

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

```
import sqlalchemy
engine = sqlalchemy.create_engine("sqlite:///books.db")
rows = engine.execute('select * from books')
for i in rows:
    print(i)
('The Weirdstone of Brisingamen', 'Alan Garner', 1960)
('Perdido Street Station', 'China MiÃ©ville', 2000)
('Thud!', 'Terry Pratchett', 2005)
('The Spellman Files', 'Lisa Lutz', 2007)
('Small Gods', 'Terry Pratchett', 1992)
```

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.

```
import redis

conn = redis.Redis()

conn.delete('test')

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

conn.hgetall('test')
```

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

```
conn.hincrby('test','count', 3)
```