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,'

filee **=** open('test.txt','w')

filee**.**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:

file2 **=** open('test.txt','r')

test2 **=** file2**.**readline()

test2

**if** test1**==**test2:

print('Both are same')

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:

**import** csv

rows **=**[ ['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(rows)

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

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.

Ans:

**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.

Ans:

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.

Ans:

c**.**execute('select title, author,year from books order by year')

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

df

Out[13]:

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

Ans:

**import** sqlalchemy

engine **=** sqlalchemy**.**create\_engine("sqlite:///books.db")

rows **=** engine**.**execute('select \* from books')

**for** i **in** rows:

print(i)

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:

!pip install redis

**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.

Ans:

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