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.

Sol.

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

file=open('test.txt','w')

file.write(test1)

>>>43

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

Sol.

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

test2=infile.read()

len(test2)

test1==test2

>>>>True

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

Sol.

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') as outfile:

outfile.write(text)

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).

Sol.

import sqlite3

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

cursor=db.cursor()

cursor.execute("create table books(title text, author text, year int)")

db.commit()

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

Sol. import csv

with open('book.csv','r') as f:

book=csv\_reader(f)

for book in books:

cursor.execute("insert into books values( 'War and Peace', 'Leo Tolstoy',1)")

db.commit()

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

Sol.

sql = 'select title from books order by title asc'

for row in db.execute(sql):

print(row)

>>>> ('War and Peace',)

('War and Peace',)

('War and Peace',)

('War and Peace',)

('War and Peace',)

('War and Peace',)

('War and Peace',)

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

Sol.

for row in db.execute('select \* from books order by year'):

print(row)

>>> ('War and Peace', 'Leo Tolstoy', 1)

('War and Peace', 'Leo Tolstoy', 1)

('War and Peace', 'Leo Tolstoy', 1)

('War and Peace', 'Leo Tolstoy', 1)

('War and Peace', 'Leo Tolstoy', 1)

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

Sol.

import sqlalchemy

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

sql = 'select title from books order by title asc'

rows = conn.execute(sql)

for row in rows:

print(row)

>>>> ('War and Peace',)

('War and Peace',)

('War and Peace',)

('War and Peace',)

('War and Peace',)

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.

Sol.

import redis

conn = redis.Redis()

conn.delete('test')

1

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

True

conn.hgetall('test')

>>>>>{b'name': b'Fester Bestertester', b'count': b'1'}

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

Sol.

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

>>4

conn.hget('test', 'count')

>>b'4'