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'

len(test1)

with open('test.txt', 'wt') as outfile:

outfile.write(test1)

outfile.close()

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

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

test2 = infile.read()

len(test2)

test1 **==** 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

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', 'wt') **as** outfile:

outfile**.**write(text)

1. 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

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

curs = db.cursor()

curs.execute('''create table book (title text, author text, year int)''')

db**.**commit()

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

import csv

import sqlite3

ins\_str = 'insert into book values(?, ?, ?)'

with open('books.csv', 'rt') as infile:

books = csv.DictReader(infile)

for book in books:

curs.execute(ins\_str, (book['title'], book['author'], book['year']))

db**.**commit()

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

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

for row in db.execute(sql):

print(row)

#to print the title value without that tuple stuff (parentheses and comma):

for row in db.execute(sql):

print(row[0])

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

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

print(row)

#To print all the fields in each row, just separate with a comma and space:

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

print(\*row, sep=', ')

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

import sqlalchemy

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

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

rows = conn.execute(sql)

for row in rows:

print(row)

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)

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