

CHAPTER 19

EXTRA RESOURCES

Additional Resources

1. “Text Files and Binary Files” (<http://tiny.cc/textfiles/>): Understand the differences between text and binary files.
2. “Small Basic Reference Documentation: File Object” (<http://tiny.cc/fileobject/>): Learn the basics of the File object in the Small Basic reference documentation.
3. “File Input and Output” (<http://tiny.cc/fileinput/>): Explore more examples of using the File object for input and output.
4. “Temporary Files” (<http://tiny.cc/temporaryfiles/>): Find out what temporary files are and how to use them.
5. “The Settings File” (<http://tiny.cc/settingsfile/>): Learn more about what the settings file does.
6. “Writing to a Read-Only File” (<http://tiny.cc/writingtoreadonly/>): Follow along with this tutorial about getting a file error.
7. “File and Network” (<http://tiny.cc/filenetwork/>): Examine some examples of using files and the File object when you’re working across networks.

Review Questions

1. Why is data stored in files called persistent data?
2. What do you call containers that store files on a computer?
3. What is a filesystem?
4. What method can you use to read all the contents of a file at once?
5. What method lets you save the contents of a string to a file?
6. What does `WriteContents()` return?
7. What is the difference between `WriteContents()` and `AppendContents()`?
8. What method can you use to read a single line of text from a file?
9. What method can you use to save a single line of text to a file?
10. True or false? `WriteLine()` automatically adds a carriage return and line feed at the end of a line.
11. What does the `InsertLine()` method do?
12. What method can you use to create a copy of an existing file?
13. What method can you use to delete an existing file?
14. Which methods do you use to create and delete directories?
15. What does `GetFiles()` return?
16. What does `GetDirectories()` return?
17. What is the purpose of the `GetTemporaryFilePath()` method?

Practice Exercises

1. To understand the difference between text files and binary files, try this exercise:
 - a. Open Notepad, write the line “This is a test”, and then save the file as *Test.txt*.
 - b. Open Microsoft Word. Write the same line and save the file as *Test.doc* (or *Test.docx*, depending on the version of Word).
 - c. Open these two files with Notepad. What do you see?
2. Phonetic spelling is when you write *sez* for *says* or *luv* for *love*. Write a program that displays a word the way it sounds and then asks the user to enter the correct spelling. Then check the user’s answer and provide feedback. Here’s a sample run of the program:

Spell adres: **address**
Very good!

Spell bizee: **busy**
Very good!

Spell byuroh: **buroh**
Sorry, the correct spelling is bureau

Spell enuf:

Use the input file *dataIn.txt* provided with this exercise for the list of words.

3. Write a program that implements a word-guessing game. Have the program display a word with dashes in place of some missing letters, such s-h-ol for school. Then ask the user to fill in the correct word. Use the input file *dataIn.txt* provided with this exercise for the list of words. Here's a sample output of the program:

Fill in the missing letters for these words!
fo-e-t: **forest**
Very good!

fr-e-d: **friend**
Very good!

gu-t-r: **gutter**
Sorry, the correct word is guitar

4. The Summer Olympic Games have been held every four years since the first Games in 1896. The *dataIn.txt* file in this problem's folder provides the men's Olympic records for many events. The format for this file is illustrated as follows:

100 meters	< event name
9.63	< record
Usain Bolt	< name
Jamaica	< nation
2012 London	< games
August 5, 2012	< date
200 meters	< event name
19.30	< record
--snip--	

Write a program that displays the names of the available events with a number next to each event. Then prompt the user to enter an event number and display the details of the Olympic record for that event.

5. Create a new data file that contains the men's Olympic records in swimming. Run the preceding program with this new data file. (Hint: see https://en.wikipedia.org/wiki/List_of_Olympic_records_in_swimming.)

- The *dataIn.txt* file in this problem's folder contains some facts about the planets in our solar system, as shown here:

```
The planet with rings;Saturn
Our planet;Earth
The morning and evening star;Venus
--snip--
```

Write a program that uses this file to quiz the user on their knowledge of our solar system.

- Create a data file that contains the names of famous battles and their dates. Write a program that uses this file for a multiple choice quiz.
- Create a data file that contains the names of great inventions and their invention dates. Write a program that uses this file for a multiple choice quiz.
- Create a text file that contains some facts about baseball. Write a program that uses this file to implement a baseball trivia quiz.
- Create a multiple choice quiz that tests the player's knowledge of American presidential terms of office. Start by creating a text file similar to the one that follows:

```
George Washington;1789-1797
John Adams;1797-1801
Thomas Jefferson;1801-1809
James Madison;1809-1817
--snip--
```

In the program, read the contents of this file in two arrays: name and date. Then display one of the dates at random along with the names of four presidents (numbered 1, 2, 3, and 4). Have the player enter the number that matches the correct president with his term. Keep score, and let the player know whether their answer was correct. If it wasn't, display the correct answer.