

Chapter 7 Review Questions

1. The characters that follow the name of a file are referred to as the file _____.
2. A file opened for reading is referred to as an _____ file.
3. A file opened for writing is referred to as an _____ file.
4. In order to use a file in a program, the file must be _____.
5. When a file is opened in a program, it is associated with a _____ that has a variable reference.
6. A file opened by a program is opened in a specific _____ such as reading, writing, or appending.
7. For file handling, the directory where the program is running is referred to as the _____ directory.
8. The _____ method is used to output data to a file.
9. An area in memory where data to be written is temporarily stored is referred to as a _____.
10. When a program is finished using a file, it should _____ the file.
11. The escape sequence or newline character is _____.
12. To write a numeric value to a file, it must first be converted to a _____ using the _____ function.
13. When a data file is opened for writing using 'w', any data existing in the file will be _____.
14. Adding to a string or combining two strings is referred to as _____.
15. Adding to the end of a file's contents is referred to as _____ to the file.
16. When numeric data is read from a file, it must be _____ before using it in an equation.
17. A _____ is a character used to mark the beginning or end of an item of data.
18. The _____ method is used to strip off trailing white space characters.
19. The _____ method is used to parse items of data from a string.
20. When an error occurs because a file cannot be found for reading or created for writing, it is referred to as raising an _____.

Chapter 7 Short Answer Exercises

1. Write the statements required to open a file named "test_file.txt" for writing and associate it with the variable reference `my_file`, write "This is a test." to the file, and close the file.
2. Write the statements required to open a file named "test_file.txt" for writing and associate it with the variable reference `my_file`, write "This is a test." to the file, and close the file. Then reopen the file for reading, read a line of text, print the line of text, and close the file.
3. Write the statements required to open a file named "numbers.txt", write the numbers 1, 2, and 3 to the file, and close the file.
4. Write the statement to open a file named "numbers.txt" for writing that does not erase the existing data in the file. Associate the file with the name `my_file`.
5. Write the statements required to open a file named "data.txt" for reading in a try block, and the exception handler for an `IOError` that displays "The file could not be opened".
6. Write the statements required for a try block to read all of the data from a file named "data.txt" and print the contents, and handle an exception.

Chapter 7 Programming Exercises

1. Write a program that creates a file for writing called "data.txt" and write the following lines to the file on separate lines and close the file.
 - The first line
 - The second line
 - The third line
 - The fourth line
 - The fifth line
 - The sixth line

Chapter 7- End of Chapter assignments

2. Write a program that creates a file for writing called "data.txt" and write the lines below to the file (or use the file from #1 above) and close the file. Open the file for reading and display the contents of the file.

The first line

The second line

The third line

The fourth line

The fifth line

The sixth line

3. Write a program that creates a file for writing called "data.txt" and write the lines below to the file (or use the file from #1 or #2 above) and close the file. Open the file for reading and display the contents of the file with a line number and colon as shown below.

The first line

The second line

The third line

The fourth line

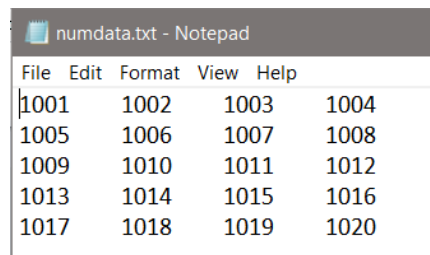
The fifth line

The sixth line

```
1: The first line
2: The second line
3: The third line
4: The fourth line
5: The fifth line
6: The sixth line
```

4. Write a program that creates a text file named "num_data.txt" and writes the numbers 1001 thru 1020, separated by a tab with four numbers per line.

Data file example:

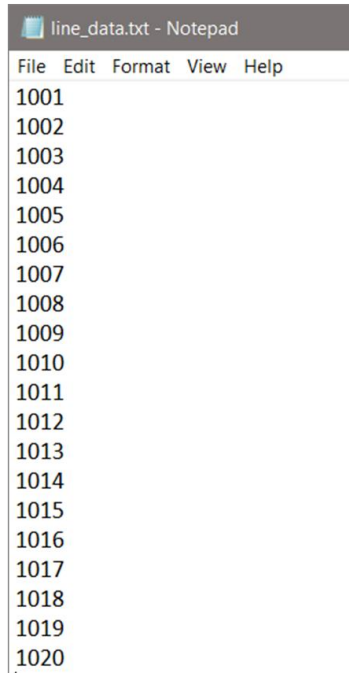


```
numdata.txt - Notepad
File Edit Format View Help
1001 1002 1003 1004
1005 1006 1007 1008
1009 1010 1011 1012
1013 1014 1015 1016
1017 1018 1019 1020
```

Chapter 7- End of Chapter assignments

- Write a program that creates a text file named "line_data.txt" and writes the numbers 1001 thru 1020, on separate lines. Then open the file and display the numbers in two columns separated by a tab as shown below. Hint: use strip to remove the line feed.

Data file example:



```
line_data.txt - Notepad
File Edit Format View Help
1001
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019
1020
```

Display output example:

```
1001    1002
1003    1004
1005    1006
1007    1008
1009    1010
1011    1012
1013    1014
1015    1016
1017    1018
1019    1020
```

- Create a text file named "sales_data.txt" with the sales data listed below each on a separate line. Write a program that defines main which reads one value from the file at a time and calls a function to compute and return the discount price (20% off), and display the original and discount prices in two (2) columns separated by a tab as shown.

Sales data: 19.64, 3.56, 9.87, 16.33, 12.95, 6.50

```
$ 19.64 $ 15.71
$ 3.56 $ 2.85
$ 9.87 $ 7.90
$ 16.33 $ 13.06
$ 12.95 $ 10.36
$ 6.50 $ 5.20
```

Chapter 7- End of Chapter assignments

7. Create a text file named "products.txt" with the product names and prices listed below them on separate lines. Write a program that reads the data from the file and calls a function to compute and return the discount price for the item (20% off), and display the item name, original price, and sale price in columns with column headers as shown.

Data file example:

```
products.txt - Notepad
File Edit Format View Help
Frisbee
12.99
Picture
13.50
Figure
19.89
Towel
9.95
umbrella
16.75
lotion
2.95
```

Display output example:

Product	Price	Sale Price
Frisbee	\$ 12.99	\$ 10.39
Picture	\$ 13.50	\$ 10.80
Figure	\$ 19.89	\$ 15.91
Towel	\$ 9.95	\$ 7.96
umbrella	\$ 16.75	\$ 13.40
lotion	\$ 2.95	\$ 2.36

8. Create a text file named "some_data.txt" with the following single line in the file.

1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5, 8.5, 9.5, sales

Write a program that opens and reads the file, displays the numbers vertically, totals the numbers, and displays the total. Include a try block and exception handling for an IOError and a ValueError that display appropriate messages. Include a finally clause that closes the file.

Chapter 7 Programming Challenge

Employee Data File

Design and develop a program for a local company payroll that uses the employee data file shown below. The program will read the file and display the name and ID for the employee, and the gross pay for each employee based upon the input file data. The format for the output is shown below. Include two (2) exception handlers in the solution.

The data format for the input file is: name, ID number, hourly rate, and hours worked

Chapter 7- End of Chapter assignments

Data set for the "employee_data.txt" file is:

Erica

#824

11.35

32

Tamar

#926

12.80

18

Simone

#765

14.55

12

Darius

#960

16.75

26

Sheila

#923

27.25

22

Output Format

Employee	ID#	Gross Pay
Erica	#824	\$363.20
Tamar	#926	\$230.40
Simone	#765	\$174.60
Darius	#960	\$435.50
Sheila	#923	\$599.50