# I/O and File Handling

## Exercises

### Week 8

Prior to attempting these exercises ensure you have read the lecture notes and/or viewed the video, and followed the practical. You may wish to use the Python interpreter in interactive mode to help work out the solutions to some of the questions.

Download and store this document within your own filespace, so the contents can be edited. You will be able to refer to it during the test in Week 6.

Enter your answers directly into the highlighted boxes.

For more information about the module delivery, assessment and feedback please refer to the module within the MyBeckett portal.

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Which of the following represents a Python *f-string*?

1. "Hello {}, you have logged in".format(name)
2. "Hello {name}, you have logged in"
3. f"Hello {name}, you have logged in"
4. "Hello %s, you have logged in" % name

*Answer:*

c

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Given the following definition of value, what would each of the following statements display?

x

print(f"Value is {value}")

*Answer:*

Value is 10.768572

print(f"Value is {value \* 10}")

*Answer:*

Value is 107.68572

print(f"Value is {value:.2f}")

*Answer:*

Value is 10.77

print(f"Value is {value:16.2f}")

*Answer:*

Value is 10.77

print(f"Value is {value:0>16.2f}")

*Answer:*

Value is 0000000000010.77

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Within an *f-string* **format specifier** what does the ‘^’ alignment character signify?

*Answer:*

Align the text to the centre, align fill characters to the left and right.

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Write a statement which uses the str.format() to generate the same output as the following *f-string* statement -

print(f"pi to 5 decimal places is {math.pi:.5f}")

*Answer:*

print("pi to 5 decimal places is {:.5f}".format(math.pi))

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What would the following statement display?

print("Length = {1} Width = {0}".format(10,20))

*Answer:*

Length = 20 Width = 10

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What *exactly* would the following statement display?

print("Hello".rjust(10))

*Answer:*

print("Hello".rjust(10))

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On which older programming language is the *%-formatting* style loosely based?

*Answer:*

It is loosely based on C’s string formatting style.

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Write a Python program that uses a loop and the str.rjust() method to generate the following output.

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*Hint:* The program will start as follows

for n in range(10,0,-1):

line = "#" \* n

# rest of code....

*Answer:*

for n in range(10,0,-1):

line = "#" \* n

print(line.rjust(10))

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What is the basic element that *all* computer files contain?

*Answer:*

bytes

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What *function* must be called before the contents of a file can be accessed?

*Answer:*

open()

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What *method* must be called on a file object once processing is complete?

*Answer:*

close()

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Following execution of the given statement, would the file ‘myfile.txt’ be open for *reading* or for *writing*?

f = open("myfile.txt")

*Answer:*

reading

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Following execution of the given statement, would the file yourfile.txt be open for *reading* or for *writing*?

f2 = open("yourfile.txt", "w")

*Answer:*

writing

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Following execution of the given statement, what would be the *mode of operation* applied to file gfxlib.so ?

f3 = open("gfxlib.so", "r+b")

*Answer:*

Read + write in binary mode

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What is the difference between the two following method calls?

f.readline()

f.readlines()

*Answer:*

The first reads one line and moves the seek forward and returns a line as string.  
The second reads the whole file and saves the whole file as a list of strings split at the \n.

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How much of the file content would be read with the following method call?

content = f.read()

*Answer:*

It reads the whole file contents.

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If the variable ‘my\_file’ referred to a text file, what would the following code do?

for next in my\_file:

print(next)

*Answer:*

It would print the text file line by line

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What is the issue with the following code? And how could it be fixed?

f = open("details.txt", "w")

total = 100

f.write(total)

f.close()

*Answer:*

File write only takes str input. So the issue can be fixed by typecasting total to int.

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What is the purpose of the file tell() method?

*Answer:*

It returns the current position of the seek of the file.

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What does the following code do?

f.seek(0)

*Answer:*

It returns the files seek to the beginning.

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Why is file handling often done using a ‘with’ statement as shown below?

with open("data.txt") as f:

lines = f.readlines()

*Answer:*

Because using a with statement gracefully closes the opened file and the file looks more pythonic.

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## **Exercises are complete**

Save this logbook with your answers. Then ask your tutor to check your responses to each question.