I/O and File Handling

Exercises

Week 8

Which of the following represents a Python f-string?

a) "Hello {}, you have logged in".format(name)

b) "Hello {name}, you have logged in"

c) f"Hello {name}, you have logged in"

d) "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?

value = 10.768572

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 10.76

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: The caret (^) in an f-string format specifier means center alignment.

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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: Hello

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

Answer: The %-formatting style in Python is loosely based on the printf-style

formatting used in C and C++.

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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(12))

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What is the basic element that all computer files contain?

Answer: Bit

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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: Yes, the file ‘myfile.txt’ would be open for writing.

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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: Open for 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: This allows both reading and writing.

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What is the difference between the two following method calls?

f.readline()

f.readlines()

Answer:

f.readline() reads a single line from the file, while f.readlines() reads all

the lines and returns them as a list of strings. So, one is for reading just one line,

and the other is for grabbing the whole

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

content = f.read()

Answer: It reads entire file at once.

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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: This code would loop through each line with the text file specified by the

variable my\_file. Each line in the loop would be represented by the variable next.

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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: write() function expects a string as input but we are assigning integer.

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

Answer: To retrieve the current postition of file pointer.

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What does the following code do?

f.seek(0)

Answer: It is used to change the current postion of the file pointer.

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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: The with statement ensures that the file is automatically closed after use,

reducing the risk of resource leaks.