Arizona State University

CIS 325: Programming for Business Analytics

Assignment 1 (Individual work)

Submission Instructions

- Submit your Python script according to the guidelines in this document as a .py file with the following naming convention: "A1-[ASURITE ID].py", where you will replace the text "[ASURITE ID]" with your ASURITE ID (= your ASU login ID).

  For example, if your ASURITE ID is "abcd12", then your submission file name would be "A1-abcd12.py".

- On the top (header) of your submission .py file, add your name and email address as shown below:

```
"""
@author: [YOUR FULL NAME]
@email: [YOUR EMAIL ADDRESS]
"""
```

- Add Python comment statements (such as "*# Answer to Question 1*") in your submission .py file to separate your answers between questions.

- Not following the above submission instructions will result in a **0.2 point reduction** from your grade.

Question 1 (1 points)

Assign any values you like to two new integer objects and one float object to three different variable names of your choosing. Sum up the three variables and assign the results of the sum operation to a variable named results1.

1. Use a Python print statement to output to the console the value of the variable named results1
2. Use a Python print statement to output to the console the type of the variable named results1.

Question 2 (1 points)

Assign the following multi-line string (only a multi-line string will receive credit) to a variable named string1. Then use the Python count method to provide a count of "s" letters in the string below. Hint: Review our book and/or lecture slides for how to create this script in Python.

Multi-line string text:

```
This is a longer string
that spans multiple lines
```

Expected output:

```
6
```

Question 3 (1 points)

The Python math library provides special math constants such as π (pi), which is the ratio of a circle's circumference to its diameter (https://www.mathsisfun.com/numbers/pi.html). The following code assigns the value of π (= 3.141592653589793238) to a variable named var1. Round the value of var1 to three decimal places. Use a Python print statement to output the resulting rounded value. Hint: use the Python help function in the console in the form "help(round)" to learn how to round a number for this assignment.

Starter code:

```
import math
var1 = math.pi
```

Expected output:

```
3.142
```

Question 4 (1 points)

Take user input for two numeric variables named var1 and var2 in your Spyder console, then write a Python statement to multiply var1 and var2 variables to print the results to the Python console. Use the following Python code as a template (exactly as it is written) and insert your code between the comment code markers named "*### Place your code below this line ###*" and "*### Place your code above this line ###*":

Starter code:

```
var1 = int(input('Enter a var1 number: '))
var2 = int(input('Enter a var2 number: '))

### Place your code below this line ###



### Place your code above this line ###

print('')
print('The result of multiplying var1 and var2 is:', var3)
```

Question 5 (1 points)

Starting with the following Python code (include exactly as it is written below), divide its values to produce a float variable type with a value of 32. Hint: use type casting functions as reviewed in our lectures to convert the strings to numbers before the division takes place in your script, also to create a float variable to store the results of the division in your print statement.

Starter code:

```
numerator1 = '32000'
denominator1 = '1000'
```

Expected output:

```
32.0
```

Question 6 (1 points)

Use the following Python code template to create a variable named text1 with the string "Python is a general-purpose programming language released in 1991 by Guido van Rossum" as its value. Then use a Python print statement to output the value of the variable text1 to the Python console. You must use both variables year and author in your code to receive full credit for this question. Hint: Review book and/or lectures for concatenation of strings in Python.

Starter code:

```
year = 1991
author = 'Guido van Rossum'

### Place your code below this line ###



### Place your code above this line ###

print(text1)
```

Expected output:

```
Python is a general-purpose programming language released in 1991 by Guido van Rossum
```

Question 7 (1 points)

You decide to write a Python program to help you decide when to go for ice cream when studying here at Arizona State University. You like to go for ice cream when it is sunny and warm outside. You are so excited to learn Python can help you decide when to go for ice cream. In the code template below, you see that the variable sunny is True (meaning that it is sunny outside) and warm is False (meaning that is not warm outside). Please answer in your own words (50 words or less) as Python comments what results do you expect from the print statement in the code template below, and why Python provided such result in the Spyder console.

Starter code:

```
sunny = True
warm = False

print('Is it True or False that I should go out for ice cream?:', (sunny and warm))

# What results do you expect from the print statement,
# and why Python provided such result?
# (WRITE YOUR ANSWER AS PYTHON COMMENTS)
```

Question 8 (1 points)

In the Python code template blow, the date variable named dt stores a date in the following manner: 2021-09-06 18:51:17. Subtract 4 weeks (= 28 days) from dt using a timedelta object and assign the result to a new variable named dt2. Then write the necessary Python statements to copy the variable dt2 into a new variable named dt2_str where the date will be stored in the following manner as a string: "08/09/2021". Note that you need to add the proper Python import statement in the beginning for this code to work. You will knowthat the response is correct, when the code template below outputs to the Python console the following string: "dt2_str date is: 08/09/2021".

Starter code:

```
# Add correct import statement

dt = datetime(2021, 9, 6, 18, 51, 17)

### Place your code below this line ###



### Place your code above this line ###

print('dt2_str date is:', dt2_str)
```

Expected output:

```
dt2_str date is: 08/09/2021
```