

COMP 2067: Programming for Beginners

Winter 2022, Assignment #1

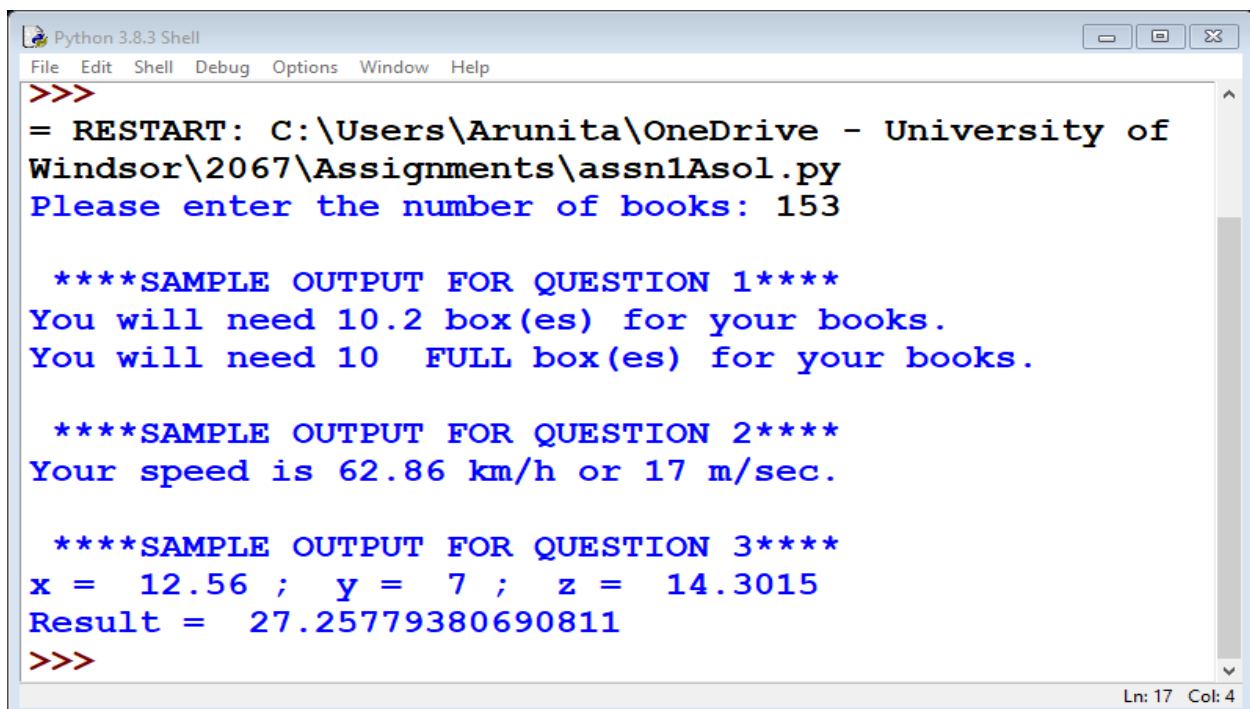
Due Date: Monday, Feb 14

Covers Lessons 1-3

For each question, write a Python program **with comments** to perform the required tasks. Each program should be submitted in a **separate** file.

1. A box can hold 15 books. (14+2=16 points)
 - a. Write a program that asks the user to input how many books s/he has and calculates the number of boxes that will be needed. The answer can be a float.
 - b. How many full boxes will there be? Assume one box must be filled before books are placed in the next one.
 - c. Display your answers with a suitable message. An example is given below.
2. A car travels 440km in 7 hours. Write a program that calculates the average speed of the car and displays it in a) km/h rounded to 2 decimal places b) m/sec rounded to the nearest integer. Display your answers with a suitable message. (12+2=14 points)
3. Initialize 3 variables x , y and z with values 12.56, 7 and 14.3015 respectively. Print the values of x , y and z . Evaluate the arithmetic expression $\frac{3^y - (x+y)}{(x-y) \cdot z}$ using the values x , y and z defined above and assign the result to a variable. Print the values of x , y and z and the final result, with suitable messages. (18+2=20points)

Below is a screenshot showing a sample output for each question. Note that while the sample outputs below are all shown together for convenience, you should be submitting three **separate** files.



```
Python 3.8.3 Shell
File Edit Shell Debug Options Window Help
>>>
= RESTART: C:\Users\Arunita\OneDrive - University of
Windsor\2067\Assignments\assn1Asol.py
Please enter the number of books: 153

****SAMPLE OUTPUT FOR QUESTION 1****
You will need 10.2 box(es) for your books.
You will need 10 FULL box(es) for your books.

****SAMPLE OUTPUT FOR QUESTION 2****
Your speed is 62.86 km/h or 17 m/sec.

****SAMPLE OUTPUT FOR QUESTION 3****
x = 12.56 ; y = 7 ; z = 14.3015
Result = 27.25779380690811
>>>
```

Ln: 17 Col: 4