Covers Lessons 7-10

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

1. Write a program, with comments, to do the following: **(18+2=20)**
   a. Define a list of strings called **wordlist**. The list should contain at least 10 strings.
   b. Starting with the first element (i.e. element 0) check every 3rd element of the list in a loop, (i.e. elements with index 0, 3, 6 … and so on) and count the number of vowels in that string.
   c. Print the string and the number of vowels in the string with a suitable message.
   d. If the string contains 3 or more vowels, exit the loop (don't need to check remaining elements).
   e. If you exited the loop after finding a string with 3 or more vowels, print '***Found string with 3 or more vowels!***'; otherwise print "***Did not find suitable string.***"

   A sample output for **wordlist = ['hat', 'book', 'house', 'flower', 'tree', 'grass', 'cheetah', 'lion', 'tiger', 'car', 'boat']** is shown below.
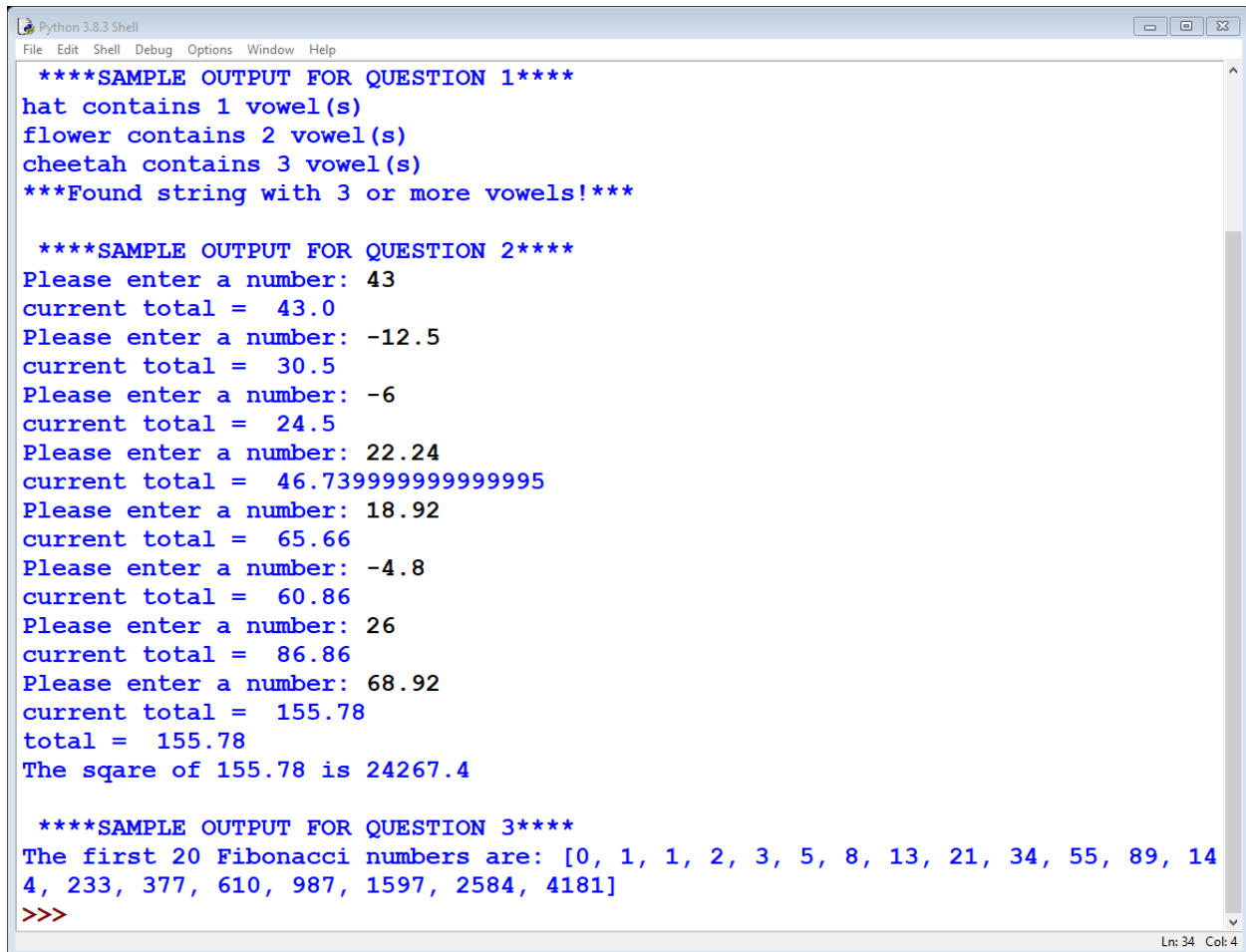

2. Write a program, with comments, to do the following: **(24+2=26)**
   a. Create a variable **total** and assign it a value of 0.
   b. In a loop, do the following:
      i. ask the user to enter a number **num** (could be float or int).
      ii. add **num** to current value of **total** and print the updated value of **total**.
   c. The loop should continue until **total** > 100
   d. After exiting from loop, calculate the *square* of **total** and assign it to a variable **x**.
   e. Print the final value of **total** and print **x** rounded to **1** decimal place with a suitable message.

3. A Fibonacci sequence is a series of numbers where every number after the first two is the sum of the two preceding ones. By definition, the first two numbers in the Fibonacci sequence are **0** and **1**, and each subsequent number is the sum of the previous two. Write a program that generates a list of the first 20 numbers in the Fibonacci sequence and print the list with a suitable message. **(16+2=18)**

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
 ****SAMPLE OUTPUT FOR QUESTION 1****
hat contains 1 vowel(s)
flower contains 2 vowel(s)
cheetah contains 3 vowel(s)
***Found string with 3 or more vowels!***

 ****SAMPLE OUTPUT FOR QUESTION 2****
Please enter a number: 43
current total =   43.0
Please enter a number: -12.5
current total =   30.5
Please enter a number: -6
current total =   24.5
Please enter a number: 22.24
current total =   46.739999999999995
Please enter a number: 18.92
current total =   65.66
Please enter a number: -4.8
current total =   60.86
Please enter a number: 26
current total =   86.86
Please enter a number: 68.92
current total =   155.78
total =   155.78
The sqare of 155.78 is 24267.4

 ****SAMPLE OUTPUT FOR QUESTION 3****
The first 20 Fibonacci numbers are: [0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 14
4, 233, 377, 610, 987, 1597, 2584, 4181]
>>>
                                                                    Ln: 34  Col: 4
```