Make sure you have the tutorial open when answering the following questions. All of the questions in this module use the Python Tutorial at:

* <http://www.letslearnpython.com/learn/>

Note: You should use the black area of Repl to try the simple Python expressions listed in the questions below.

**Lesson 4: Strings – Strings and Lesson 4: Strings – Examples**

1. What is a string? Explain in words and provide an example.

Strings are numbers and letters place in quotations so they can be read as data by the program.

1. Explain why typing “apple” works and why typing apple without quotes gives an error.

Typing apple with quotations works because the program is able to read them as data and if you type it without quotations the program won’t be able to read it.

1. Is there a difference between typing “apple” and ‘apple’? (i.e. is there a difference between using single or double quotes.

There isn’t necessarily and differences except that when the program reads it with 1 quotation I prints it with 1 and when you type it with 2 quotations it still prints it with 1 quotation.

1. Explain why typing “apple’ gives an error.
2. Explain why “2 + 5” does not equal 7 and how it is different from typing 2 + 5.

It equals 7 without quotations because it reads it as a variable

**Lesson 4: Strings – Operators**

1. Type “appl” + “e” and explain what it does. Why do you think this works?
2. Type “apple” - “e” and explain what it does. Why do you think this gives an error?
3. Type “Hello” \* 10 and explain what it does. Why do you think this works?
4. Type “Hello” / 10 and explain what it does. Why do you think this gives an error?
5. The ***concatenation*** operator (+) is very useful for working with strings. Explain ***concatenation*** with words and examples.

**Lesson 4: Strings – Indexes and Lesson 4: Strings – Indexes Examples**

1. Create a string using the letters in your first name and write down the index number for each letter.
2. Explain why print (“Hello!” [4]) does not print “l”.
3. What does print (“Hay, Bob!” [4]) print? For a hint try print (“Hay, Bob!” [3]) and print(“Hay, Bob!”[5])
4. Answer True or False: “String indexes in Python begin at 0”. Do you need to know the reason for this or do you just need to remember this?

**Lesson 5: Variables**

1. Complete “Lesson 5: Variables – Save a Value” by typing the sample commands in the black area of the IDE.
   1. What do you get if you type puppies / 3?
   2. Why doesn’t typing kittens / 3 work?
2. Complete “Lesson 5: Variables – Math Operators” by typing the sample commands in the black area of the IDE.
   1. Explain what happens for following sequence of commands:
      * colour = “red”
      * puppies = 36
      * colour + puppies
3. Complete “Lesson 5: Variables – String Operators” by typing the sample commands in the black area of the IDE.
   1. Explain why the following commands give different results:
      * Color + day \* fishes
      * ( Color + day ) \* fishes
4. Complete “Lesson 5: Variables – Indexes” by typing the sample commands in the black area of the IDE.
   1. What is the index of ‘r’ in “watermelon”?
   2. Write an expression using mynumber to return ‘r’
5. Integers (numbers) and Strings (letters) are different data types in Python?
   1. What doesn’t “friend” + 5 work?
   2. What is the difference between the ***int*** and ***str*** data types?