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 for text. You use strings when you want to write a sentence.

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

Apple gives you an error because ‘apple’ is undefined. Meaning that apple does not have a variable.

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

No there is not a difference. If you have a single quotation in your sentence you should use double quotation. For example( “Hello’s”). If you have (‘Hello’ Human’), it   will cut out the human in the text.

1. Explain why typing “apple’ gives an error.

Since apple starts with “ and ends with a ‘ the program thinks that ‘ is an apostrophe and part of the word. Also these are two types of quotations.

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

Since it is in quotations python thinks it needs to print just the expression but if you write just 2+5 then it print the answer instead. Also since it is a integers python would add it.

**Lesson 4: Strings – Operators**

1. Type “appl” + “e” and explain what it does. Why do you think this works?

It adds the e to appl to give apple. This is because it puts the strings side by side

1. Type “apple” - “e” and explain what it does. Why do you think this gives an error?

A TypeError occurs because you cannot change a string

1. Type “Hello” \* 10 and explain what it does. Why do you think this works?

It types in 10, ten times. We are multiplying how many times

1. Type “Hello” / 10 and explain what it does. Why do you think this gives an error?
2. 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?