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 words, phrases, numbers used to create variables and integers as long as they are in quotations.

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

The quotation format works because python needs quotations for strings, and the format without quotations doesn’t work because this isn’t a phrase unless it’s a variable to be described.

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

There is no such difference in double or single quotations. Both can display strings on the output.

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

Here the problem is that there is a double quotation on the left side where as there is a single quotation on the right side which are not compatible with each other, the computer can’t read this statement.

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

The first example is a string as there are quotations on each side of the phrase, where as the statement without the quotation is an equation because it’s not in the string format.

**Lesson 4: Strings – Operators**

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

It displays nothing on the output. Although it doesn’t give a syntax error.

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

This gives a syntax error as we can’t subtract strings.

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

This repeats the statement many 10 times as its multiplied by 10 times.

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

The string is 5 letters but we are dividing this by 10, so this is an error according to math.

1. The ***concatenation*** operator (+) is very useful for working with strings. Explain ***concatenation*** with words and examples.

Concatenation in the context of programming is the operation of joining two strings together.

**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. name = ('kunwar dua')
3. print(name)

index number= 0,1

1. Explain why print(“Hello!”[4]) does not print “l”.

Because we are not directing the variable to display the fourth letter.

1. What does print(“Hay, Bob!”[4]) print? For a hint try print(“Hay, Bob!”[3]) and print(“Hay, Bob!”[5])
2. 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?