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.

A string is a set of words, numbers, symbols in quotation marks

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

Python will read is as a variable rather than a string

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

No because python still see them as strings since both use quotations

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

It is because the start and end quotations are different quotation marks

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

The one in the quotations are seen as a string instead of an equation

**Lesson 4: Strings – Operators**

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

Python can easily add strings to other strings but…

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

… can’t subtract a string from a string as it can’t identify what part of the string

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

It prints Hello ten times

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

It can’t split hello into groups

1. 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.

(“A”) + (“m”) + (“a” + (“d” + (“e”) + (“o”) + (“u”) + (“s”) + (“ ”) + (“B”) + (“a”) + (“l”) + (“l”)

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

It doesn’t count the first letter

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

It will print “ ”

1. 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?: True

**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?

Syntax error

* 1. Why doesn’t typing kittens / 3 work?

It can’t split the word into groups

1. 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” – Command is read as a string
      * puppies = 36 – Command is read as an Integer
      * colour + puppies – A syntax error appeares
2. 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  
        Both resulted in an error
3. 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”?

print("Watermelon!"[4])

* 1. Write an expression using mynumber to return ‘r’

print("mynumber"[7])

1. Integers (numbers) and Strings (letters) are different data types in Python?
   1. What doesn’t “friend” + 5 work?

A string and integer can’t be in the same equation

* 1. What is the difference between the ***int*** and ***str*** data types?

Int are numbers and str are words