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 characters, like letters or symbols, or a bunch of characters put together, like words.

"puppy dog"

"Hello!"

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

Without quotations, apple is considered a undefined variable.

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

No.

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

**EOL while scanning string literal**

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

“2+5” is telling the program to store that text and 2+5 is is telling the program to solve.

**Lesson 4: Strings – Operators**

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

It makes “appl” and “e” into one word.

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

Once a variable is defined it cannot be changed.

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

It repeats “hello” 10 times because it was told to multiply hello by 10.

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

Because you can’t divide a word.

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

Concatenation is a little bit like adding - we use it to put strings together side by side.

"Hi" + "there!"

'Hithere!'

**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.

“M” + “o” + “b” + “e” + “e” + “n”

M o b e e n

0 1 2 3 4 5

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

Because the 5th letter of the word is “o” and not “i”

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

It prints the 4th letter which is “B”.

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. You only 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?

Error

* 1. Why doesn’t typing kittens / 3 work?  
     typing kittens / 3 doesn’t work bause “/” is unsupported and you cannot divide a word.

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”
      * puppies = 36

* + - colour + puppies

You get an error because you need to assign a number and a word to two variables.

1. 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

Because of the brackets they have to follow the BEDMAS format.

1. 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”?

4

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

   mynumber = 6

fruit[mynumber-4]

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

Because you cannot mix str (strings) and int (integers)

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

Int refers to whole numbers whereas str refers to words.