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.

Variables in quotation marks are called strings, variables without quotation marks are just variables

“apple” = String

Apple = variable

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

It believes that apple is a variable and not a string but “apple” is a string so it can do the command.

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 no difference

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

two different quotation marks in one command.

If you use one type of quotation mark you must end it with the same quotation mark so that python does not get confused on where the string ends and starts

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

2 + 5 is a string so python will type whatever is inside the string and not answer the question, and 2 + 5 is not a string so it will not print it, but answer.

**Lesson 4: Strings – Operators**

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

It will give you the conjoined word of apple.

This happens because you are giving the command to combine the two strings together to make a new string.

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

Because you are not giving it a proper command and you are explaining to take away a nonexistent word from a completely different word

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

It will type ‘Hello Hello Hello Hello Hello Hello Hello Hello Hello Hello’ this is because you are multiplying the code 10 times.

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

It gives an error because you cannot divide hello by 10.

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

It combines different strings to give you a new string.

Example: ‘hello’ + ‘there’ + ‘friends’

‘hellotherefriend’

**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” + “P” + “I” + “R” + “A”

0 1 2 3 4

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

Because you have to start at 0 and the 4 is o.

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

Is prints the space inbetween.

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?

You 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? 12.0
   2. Why doesn’t typing kittens / 3 work? Because it does not have an assigned value. Therefore it does not 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

it does not work and only shows error

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

‘yellowMondayMondayMonday’

You multiplying day three times while only writing color once

* + - ( Color + day ) \* fishes  
      ‘yellowMondayyellowMondayyellowMonday’  
      you are multiplying color and day three times because following the rules of bedmas brackets are always first so color and day were already added together.

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”?

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

fruit[mynumber+1]

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

Friend is not defined

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

Interger data is assigned to a value but a string is a command that you print.