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 character or collection of characters that have been defined as a string.

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

Because the quotation mares are what define what you give it as 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 there is not.

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

**Because it needs to be either double quotations or single quotations, not both.**

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

Because a string takes literally what you give it and does not modfy it with the calculations that are built in

**Lesson 4: Strings – Operators**

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

I think this works because it is easy to append a letter to a group of letters.

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

This gives a syntax error because e is not a value and if you subtracted every e from the string because of this the command wouldn’t be very useful

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

It prints hello ten times since it is fairly easy to just repeat the command the amount you told it to

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

Hello / 10 gives an error because it is impossible to divide a word, especially one that is less than what you are dividing it by.

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

Concatenation is when a string is added to the end of another string for example if you added “toad” to the word “chicken” you would receive “chickentoad”

**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.

name = “Ryan”

r = index 0

y = index 1

a = index 2

n = index 3

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

Because strings start at the index 0 and not at the index 1 so “hello”[4] is “o”

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

It prints a space.

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?

This is true you don’t really need to know why, you just need to know to program right.

**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?

An error because puppies hasn’t been defined

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

An error because kittens hasn’t been defined

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 since you cannot add an integer to a string.

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

They give different results because variables follow BEDMAS.

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”?
   2. Write an expression using mynumber to return ‘r’

myNumber = “watermelon”[4]

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

Because 5 is an integer and “friend”

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

An int is used for math using numbers where as a string is used to store data as typed.