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 in python is a sequence of characters, strings are immutable, which means when they are entered it cannot be changed

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

Since you put the word apple in quotes it turns it into string and string will just write it out as text.

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 difference if you write ‘apple’ or “apple” since python regards both as the same thing.

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

This ends up as an error since you cannot use two different quotes to do it because python will not accept it.

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

Since you put it into string it will display it as a line of text.

**Lesson 4: Strings – Operators**

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

It puts the two words together, this is called concatenate which is a little bit like adding

We use it to put strings side by side. For example if you put “appl” + “e” and press enter it will put the two words together and single quotes.

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

It gives an invalid character identifier which means you have some character in the middle of a variable name that’s not a letter, function ect.

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

It writes the number 10 times since you are asking it to multiply the word by 10.

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

Since you cannot divide a letter it will come up is an error message.

1. The ***concatenation*** operator (+) is very useful for working with strings. Explain ***concatenation*** with words and examples. It’s a way to put strings side by side, for example if you do “basket” + “ball” and press enter it will merge the two words together and display ‘basketball’

**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.

(“Damian”)

D= 0 A= 1 M= 2 i= 3 A= 4 N= 5

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

Since the l is either 2 or 3 it will print the o instead of l

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

It prints the space since the space it a part of it so the answer would be blank

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?

Since I wrote puppies = 6 \* 6, if you divide it by three it will multiply 6 and 6 then divide by three.

* 1. Why doesn’t typing kittens / 3 work?  
     when you press enter it will come up wit an error since the name kittens is not defined so you would have to go back and for example type kittens = 2 + 2 for python to complete the command.

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

It tells you that there is a TypeError: can only concatenate str (not "int") to str, A TypeError occurs in Python when you attempt to call a function or use an operator on something of the incorrect type.

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

yellowMondayMonday

* + - ( Color + day ) \* fishes  
      yellowMondayyellowMonday

They give different results since python does bedmas it will have different results if you have brackets verses no brackets.

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”?

The index of “r” in watermelon is 4

* 1. Write an expression using mynumber to return ‘r’  
     myNumber = 4

1. Integers (numbers) and Strings (letters) are different data types in Python?
   1. What doesn’t “friend” + 5 work? It says friend is not defined.
   2. What is the difference between the ***int*** and ***str*** data types?

Integers can be converted into string but string cannot be converted into integers. Also a string is a character value while integers are a numeric value.