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.

- When we use the word *string* in programming, we're talking about characters, like letters or symbols, or a bunch of characters put together, like words.

- That string has a single quote, or an apostrophe, inside it. And that's fine, because the quotes on the outside are double quotes.

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

- Only “apple” will work because it has a quotation. If you type apple normally there is no sting attached to it so python will get confused and will throw an error if there is no quotes.

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 by using a double quote or a single quote because they are both basically the same thing.

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

**-** “apple’ gives an error because although the word has quotations around them, they boh have to be the same in order for it to work.

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

- “2 + 5” is just printing the message but 2 + 5 is actually calculation the equation since there is no string attached.

**Lesson 4: Strings – Operators**

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

- “appl” + “e” adds the e in the word apple. So the plus symbol adds the words together with quotations.

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

- It gives an error. I think it gives this error because only you can add letters to words but you cannot subtract letters form words.

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

- Basically this makes is where Hello is typed 10 times without spaces. I think this works because you multiplied the work by 10 times.

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

- It gives a error. I think this doesn’t work because if you divide 1 by 10 it gives you a decimal. So basically you cannot divide a word 10 times because words don’t have decimals

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. - And multiplying controls how many times we show a string.

**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.

- print("Kristien"[4])       K R I S T I E N

       0 1 2 3 4 5 6 7

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])

- This prints the space in between the “,” and “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?

- Because the / is not supported 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

- They give different results because of the brackets as they have to follow the bed mass format. Brackets Then the rest.

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”?

- 5

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

- myNumber = 5  
- watermelon(myNumber – 2)

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

-   Because you cannot mix strs (strings) ans ints (integers)

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

-  Int refers to whole numbers whereas str refers to words.