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 text in python because they show mathematics like that

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

* That is because in python they treat quotations like math expressions so it understands that

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 a difference because python understands both of them in the same way

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

* **That gives an error because it does not be equal in python language**

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

* That does not equal 7 because the quotation should have been one (‘) to add in python

**Lesson 4: Strings – Operators**

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

* I think this works because there are quotations around both appl and e

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

* That does not work because that does not support anything. The – sign is just there.

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

* This works I think so because it is clear and is in python form

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

* That creates an error because that is not the right form for python

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

* That is because python understands math expressions and it can solve them on python

**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.

* 'j' 'a' 's' 'm' 'e' 'e' 't'

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

* Because that is an undefined character in python

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

* They are all an error because they do not have the correct spelling in the actual program

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 but if you want to know there is an answer for that as well

**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? You get a syntax error
   2. Why doesn’t typing kittens / 3 work? That does not work because that does not have quotations added to it.
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” - there is error
      * puppies = 36 - that works there is an arrow
      * colour + puppies - there is an error
3. 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 both gave the same answer they do not work they have different commands from python
4. 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”? – that is +
   2. Write an expression using mynumber to return ‘r’ “wate” + “R” + melon
5. Integers (numbers) and Strings (letters) are different data types in Python?
   1. What doesn’t “friend” + 5 work? – the thing that does not work is the part where there are missing quotations
   2. What is the difference between the ***int*** and ***str*** data types?

* The difference is that int represents different positive or negative whole numbers, and str is when the text is written in either single quotes or double quotes.