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.

"puppy dog"

'puppy dog'

"Hello!"

'Hello!'

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

There is an error when typing apple without the quotes because the computer needs to see the word and the computer sees the word by the quotations around the word

1. Is there a difference between typing “apple” and ‘apple’? (i.e. is there a difference between using single or double quotes.

The difference between the two apples is the one with the one quotation just gets repeated and the one with double quotations changes into only one quotation.

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

The reason that typing “apple’ gives an error because the computer gets confused about the two different quotations.

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

The reason that “2+5” does not equal 7 because the computer reads the thing that is in the quotations and puts it out as a word.

**Lesson 4: Strings – Operators**

1. Type “appl” + “e” and explain what it does. Why do you think this works?
2. Type “apple” - “e” and explain what it does. Why do you think this gives an error?
3. Type “Hello” \* 10 and explain what it does. Why do you think this works?
4. Type “Hello” / 10 and explain what it does. Why do you think this gives an error?
5. The ***concatenation*** operator (+) is very useful for working with strings. Explain ***concatenation*** with words and examples.

**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.
2. Explain why print(“Hello!”[4]) does not print “l”.
3. What does print(“Hay, Bob!”[4]) print? For a hint try print(“Hay, Bob!”[3]) and print(“Hay, Bob!”[5])
4. 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?

**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?
   2. Why doesn’t typing kittens / 3 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
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
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”?
   2. Write an expression using mynumber to return ‘r’
5. Integers (numbers) and Strings (letters) are different data types in Python?
   1. What doesn’t “friend” + 5 work?
   2. What is the difference between the ***int*** and ***str*** data types?