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 are letters and numbers In quotation marks.

“Hello!”

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

It gives an error because python cannot read it, because the string is not inside quotes.

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

Apple in quotation marks is a string, while with the apostrophe’s it is a variable.

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

The apple contains both an apostrophe and a quotation mark which means it is not defined.

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

“2 + 5” is a string while 2 + 5 is a regular math equation

**Lesson 4: Strings – Operators**

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

Python tries to put the strings together and it creates the word apple

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

It gives an error because “e” is not defined as its own so it cannot subtract it.

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

It says hello 10 times, this works because it repeats it 10 times.

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

It gives an error because the string “Hello” cannot be divided into 2.

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

Concatenate puts strings right next to each other.

"Hi" + "there!"

'Hithere!'

**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.

“N” + “E” + “I” + “L”

N E I L

0 1 2 4

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

The quotation marks are not lined up

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

It printed o,l and nothing

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 need to remember this because you might make mistakes.

**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? 12
   2. Why doesn’t typing kittens / 3 work? Because kittens is not defined
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

You get an error because a string and a number cannot be added together

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  
        Because the equations is done at different times due to the brackets.
2. 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”?

4

* 1. Write an expression using mynumber to return ‘r’  
     fruit = “watermelon”

Fruit[4]

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

Because you cannot add

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

Integers are only used for numbers while strings can be used for characters and letters.