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 used to store text in a program.

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

* When typing apple with quotations it identifies you group what is together. When you do not add quotations it doesn’t identify this.

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 because as mentioned before it identifies you are grouping them together.

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

* When typing apple like this it has a single quotation and a double quotation. In order for the code to work they have to have the same type of quotation.

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

* When you add quotations it repeats itself and has single quotations whereas we started off with double. When using no quotations, it performs simple math commands like addition.

**Lesson 4: Strings – Operators**

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

* It says “apple” at the end. It does that because it adds the letters together creating a word. I think this works because by using “letters” + “letters”, the program knows to combine them together (addition sign [+]).

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

* It gives an error, because the code is it is not used to subtract

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

* It works because the code is asking the program to type hello ten times, by multiplying hello by 10. Hello is like the variable and 10 is the amount of time you multiply it.

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

* This gives an error because it’s not used to divide.

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

* Concatenation is like using Addison (+). You can “add” strings together to put them beside each other.

**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.**
   * “R” + “I” + “y” + “A”
2. **Explain why print(“Hello!”[4]) does not print “l”.**

* Because the 5th letter of the word is not I

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

* Print space between “” 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?**
   * You get an error
   1. **Why doesn’t typing kittens / 3 work?**
   * Because kitten isn’t given a value.
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**
   * it creates an error, because a number cannot be added to a word
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 give different results because the brackets have to follow bedmass format

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”?**
   * 4
   1. **Write an expression using mynumber to return ‘r’**
   * mynumber = 4
   * fruit(mynumber-2)
2. **Integers (numbers) and Strings (letters) are different data types in Python?**
   1. **What doesn’t “friend” + 5 work?**
   * Because you can’t mix strings and integers
   1. **What is the difference between the *int* and *str* data types?**
   * Int = who numbers
   * Str = words