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 for text. You use strings when you want to write a sentence.

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

Apple gives you an error because ‘apple’ is undefined. Meaning that apple does not have a variable.

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. If you have a single quotation in your sentence you should use double quotation. For example( “Hello’s”). If you have (‘Hello’ Human’), it   will cut out the human in the text.

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

Since apple starts with “ and ends with a ‘ the program thinks that ‘ is an apostrophe and part of the word. Also these are two types of quotations.

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

Since it is in quotations python thinks it needs to print just the expression but if you write just 2+5 then it print the answer instead. Also since it is a integers python would add it.

**Lesson 4: Strings – Operators**

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

The e adds to “appl” and gives “apple” This works because the two strings are put together side by side

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

It gives a TypeError because you can not change strings once they are defined

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

It writes Hello 10 times as the code asks to multiply hello by 10

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

It gives a type error. This is because, because Hello is basically 1 so if you divide it by 10 you would get a decimal number or in this case it would be like dividing the word hello by 10

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

It puts strings side by side. For example if we use the concatenation was used with the word “my name” + “ is Keerat” it would type name is keerat

**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.

K e e r a t

0 1 2 3 4 5

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

As H starts at 0, the O will be 4 and l will be 3

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

It prints nothing this is because the space between the comma and B is 4. If it was 3 it would print the comma and for 5 it would print out 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?

This is true. You just need to remember this as you can get a different text printed if you think it starts at 1

**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 12. This is because as the variable puppies has the value 36 assigned to it. This means that the program is doing 36 divided by 3 to give you the answer 12

* 1. Why doesn’t typing kittens / 3 work?  
     In the code kittens is not defined so python doesn’t know what it is dividing by 3

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
2. colour = "red"
3. puppies = 36
   * + colour + puppies
     + It gives a TypeError as you can only concatenate a string and not a “int”
4. 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

(yellowMondayMondayMonday)

In this day which represents Monday and fishes which represent 3 are multiplied first as in bedmas you do multiplication first. From this you get MondayMondayMonday. Then with the + symbol it gets concatenated with color which represents yellow to give (yellowMondayMondayMonday)

* + - ( Color + day ) \* fishes

('yellowMondayyellowMondayyellowMonday')

In this first you must do everything in the brackets as in bedmas the brackets come first. This means color which represents yellow and day which represents Monday get concatenated to give YellowMonday. Next this is multiplied with fishes which represents 3 giving yellowMondayyellowMondayyellowMonday

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] this is because in watermelon it starts of at [0] which is w and then increases so r is [4]

* 1. Write an expression using mynumber to return ‘r’  
     fruit[mynumber + 1]

Mynumber + 1 would equal 4 as mynumber is equal to 3 and the index of r in watermelon is [4]

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

This would guve you a TypeError because you can only concatenate strings with other strings and not int data types

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

An str is a word put in quotation marks and an int is a number.