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 sentences

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

Apples give you an error because Apple is an undefined variable

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

There is no difference

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

There is two different types of quotations

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

It is different because if you type ‘2+5’ it will just print 2+5 but if its just printed as 2+5 with no quotations it would be giving the answer of 7

**Lesson 4: Strings – Operators**

`

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

It doesn’t do much as it prints “apple” but it writes the string “appl” then adds the “e”

1. Type “apple” - “e” and explain what it does. Why do you think this gives an error?
2. Type “Hello” \* 10 and explain what it does. Why do you think this works?

It takes the string and it multiplies it by 10 so it comes out as “Hello Hello Hello… etc

1. Type “Hello” / 10 and explain what it does. Why do you think this gives an error? It gives an error as you can simply not divide Hello by 10
2. The ***concatenation*** operator (+) is very useful for working with strings. Explain ***concatenation*** with words and examples.

Concatenation is little bit like adding, it is used to put strings together side by side. For Example: “ apple ” \* 100, You will get apple apple apple….etc until you get 100 apples

**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.

print ("Mobeen")  
 012345

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

It does not print “l” because the first letter of the string is always identified as 0 so whenever there is a word for example: Answer if I was to do (“Answer”[0]) I would get “A”

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

(“Hay, Bob!”[4]) prints nothing but a space because the 5th character is a “ “ and the strings count starts from 0 so the space is the 4th character. The (“Hay, Bob!”[3]) prints the comma. The (“Hay, Bob!”[5]) prints “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?

It is true. 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?

If you type that you will get the answer of 12.0

* 1. Why doesn’t typing kittens / 3 work?

You get a name error because kittens is not defined

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
      * colour + puppies
2. 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
3. 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’
4. 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?