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 symbols, or a bunch of characters put together like a word.

An example of a string is “hello”.

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

Because if you want python to read a string, it must be inside quotes.

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 between using single and double quotes as long as you are not using apostrophes in the middle. If you are then you should use double quotes since it allows you to use apostrophes but if you’re using single quotes then you can put a backslash before the apostrophe to allow it to be in the string.

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

It gives an error because the apostrophes are not the same and they both have to be either single or double quote.

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

Because if you put 2 + 5 in quotes then it treats it like a string of text and prints out what you wrote but if you write it without quotes then it treats it like an equation and it gives you the answer which is 7.

**Lesson 4: Strings – Operators**

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

It prints out apple because it adds the string of text to the other string of text which means it will print out apple.

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

Typing apple – e gives an error because it cannot subtract things from a string of text since there maybe multiple of the same letter.

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

This prints out hello 10 times and this works because it just prints out the string of text on the screen as many times as yo0u multiply it.

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

It gives and error because it is not possible to divide a string.

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

Concatenation is when you add strings to other strings. An example of this would be “Hello” + “world” which would print out “Helloworld”.

**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.

“J” + “A” + “G” + “A” + “D” + “I” + “S” + “H”

0 1 2 3 4 5 6 7

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

Because the letters start at 0 so the letter it would print would be the 5th one which is o.

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

It prints out a space because that is the 4th character starting from 0.

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 and 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?

An error message

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

Because kittens is not a number.

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”

it stores the word red in the variable colour.

* + - puppies = 36

it stores the number 36 into the variable puppies

* + - colour + puppies

an error message because you can’t add different data types

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 since python follows bedmas it will do the multiplication first in the first example but in the second example it will do the addition first since it’s in the brackets.

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”?

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* 1. Write an expression using mynumber to return ‘r’

Print(“mynumber”[7])

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

Because they are not the same data type and so they cant be added

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

Int is a whole number while a str is a string of characters.