# ASSIGNMENT 1

**1. In the below elements which of them are values or an expression? eg:- values can be integer or string and expressions will be mathematical operators.**

\* - Expression

'hello' -Value

-87.8 -Value

- -Expression

/ - Expression

+ - Expression

6 -Value

**2. What is the difference between string and variable?**

In python, a String is created by putting the characters in sequence of characters inside either single quotes, double quotes, or triple quotes and then assign it to a variable. Ex. A string may be assigned to a variable

A variable is basically a name that holds the value of data. Ex. A variable may hold a string value

**3. Describe three different data types.**

* **Integer, Float, Complex** - These are numerical data types which holds numerical values. Int data type is used to represent whole numbers(integer values). Float is used to represent decimal values. Complex numbers is represented by real and imaginary numbers
* **String**  -A string is an ordered sequence of characters.
* **List**  -A list can contain a series of values. List variables are declared by using brackets [ ].
* **Tuple**  -A tuple is a sequence of python objects separated by commas. Tuples are immutable. Tuples are defined using parentheses ().
* **Set**  -A set is an unordered collection of items. Set is defined by values separated by a comma inside braces { }.
* **Dictionary** -Dictionaries are the most flexible built-in data type in python. Dictionaries items are stored and fetched by using the key.

4**. What is an expression made up of? What do all expressions do?**

An Expression is a combination of Operands(values) and Operators(functions) for interpreting and producing some value. Expressions helps to perform mathematical and statistical operations.

**5. This assignment statements, like spam = 10. What is the difference between an expression and a statement?**

An Expression will returns a value with the given operators. But a statement on the other hand is a standalone unit of execution and will not return anything.

In the given assignment statement, the value 10 will be assigned to the variable spam but will not return anything as output

**6. After running the following code, what does the variable bacon contain?**

**bacon = 22**

**bacon + 1**

After running the code, the variable barcon will contain the value 23

(i.e) barcon = 23

**7. What should the values of the following two terms be?**

'spam' + 'spamspam' ='spamspamspam'

'spam' \* 3 ='spamspamspam'

**8. Why is eggs a valid variable name while 100 is invalid?**

A variable can only be started with a letter or a underscore and it cannot start with a number. A variable name can contain alpha numeric characters and underscores.

So, in the given question, eggs is a valid variable and since 100 starts with a number, it is an invalid variable name

**9. What three functions can be used to get the integer, floating-point number, or string version of a value?**

* int()
* float()
* str()

**10. Why does this expression cause an error? How can you fix it?**

**'I have eaten ' + 99 + ' burritos.'**

Concatenation can only be done with strings to strings . Integers or any numbers cannot be concatenated with strings. This can be fixed my considering Integers as strings within double or single quote or by using str function like

**'I have eaten ' + '99' + ' burritos.'**

**'I have eaten ' + str(99) + ' burritos.'**