**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?

Ans: **String -**  In python string is a sequential collection of characters that's used to represent text. Python do not have character data types instead it has string, which is used to hold character. Character of length one is also a string. Ex. “Hello”, “HI123” etc.

**Variable:** a variable is alias or name which can store values. Which can be used in the program whenever required.

3. Describe three different data types.

Ans: **text/string type** : These can hold character values for example name = “Abhishek”.

**Numerical data type**: These can hold numerical values (int, float, complex). Ex a = 10

**Sequence type**: These can holds sequential data values like list, tuple. Ex l = [1,2,34,”Kumar”]

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

Ans: An expression is made up of variables, operators, and method invocations, Which on execution return a single value.

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

Ans: In programming language, an “**expression**” **is** a combination of values and functions that are combined and interpreted by the compiler to create a new value.

While “**statement**” **is** just a unit of execution and doesn't return anything.

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

bacon = 22

bacon + 1

Ans: 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?

Ans: According to variable naming convention/rules a variable name can start with “\_” or alphabet only. For this 100 is not a valid variable name.

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

Ans: Int(), float() and str()

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

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

Ans: It gives **TypeError**: *can only concatenate str (not "int") to str.* Means Python can perform concatenate operation only with string data types and not the integers (here 99). So, inorder to fix the issue we need to first covert data type of 99 from int to str as str(99).

Correct expression is: 'I have eaten ' + str(99) + ' burritos.'