## Python Basic 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.

\*

'hello'

-87.8

-

/

6

**A1: \*, - , / , + are mathematical operators. Thus, called an expression.**

**‘hello’, -87.8 are values.**

2. What is the difference between string and variable?

**A2: String is a group of characters; it can be a word or a phrase. It is a type of value that can be stored in a variable.**

**Variable is an entity that helps to store any kind of the data. It can be a value or a file.  
For example, name = ‘Anamika’  
Here, ‘name’ is variable, and ‘Anamika’ is string.**

3. Describe three different data types.

**A3: Integers:** Numbers that do not contain any decimal value. For example, a = 67 or b = 90. **Floats:** Numbers containing decimal values. For example, pie = 3.14  
**Complex:** Numbers that contain real and imaginary values. For example, x = 1+ 2j, 1 is real number and 2 is imaginary.

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

**A4: Expression is a combination of operators and operands.   
Operands can be any variable or numbers combined with any mathematical operator (such as +, -, \*, /) to made up an expression. For example, a = 3 + 4.  
Here, a contains an expression, which produce a result as 7.**

**The expressions are made to interpret any results.**

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

**A5: A statement is a command line in python. Such as spam = 10, value 10 is assigned to a variable spam.  
Expression is a combination of operators and operands.   
Thus, a statement can be used for any expression to get a result.**

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

bacon = 22

bacon + 1

**A6: bacon contains the value 22.**

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

'spam' + 'spamspam'

'spam' \* 3

**A7:** 'spam' + 'spamspam' **spamspamspam**

'spam' \* 3 **spamspamspam**

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

**A8: A variable name cannot start with a number or any special character. It must be a string. Thus, eggs is a valid string variable name whereas 100 is a number which is invalid.**

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

**A9: int(), float(), str() functions will evaluate to the integer, floating-point number, or string version of a value.**

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

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

**A10: This expression is called strong typing. In strong typing, concatenation works for same data types only. In this expression, 99 is an integer data type whereas other 2 are string data type.   
We can rewrite this expression to fix it:**

**‘I have eaten ’+’99’+’ burritos.**