**ASSIGNEMENT 1**

1.What are the differences between an operator and values in the following?

A) Value is the amount or data assigned to a certain variable/entity. Whereas, the operator performs certain operation/task on the values.

For example:

5 + 4

Here, 5 and 4 are the values, whereas, the ‘ + ’ sign tells the task to be performed among the two values. The operator then returns an output depending on the values and the operation performed between them.

In the mentioned question, the examples of values are [‘hello’, -87.8 ,6] and the operators are the:

‘ \* ’ = multiplication operator

‘ - ‘ = minus operator

‘ / ‘ = division operator

‘ + ‘ = addition operator

2.What is the difference between string and variable? spam and ‘spam’

A) The variable spam corresponds to a memory location which can holds values like int, float and even a string.

While, the string spam within quotes serves as a character array and is an iterator over which we can slice through, but it is immutable whereas the variable is mutable.

3.Decribe three different data forms.

A) Data Forms: int, float , boolean

4.What makes up an expression? What are the functions of all expressions?

A) An expression is made up of variables and operators.

The functions of expressions can be assignment or evaluation.

5. In this chapter, assignment statements such as spam =10 were added. What’s the difference between a declaration and an expression?

A) The basic difference between a declaration and an expression is the assignment. The statement spam=10 assigns the value to the variable spam, whereas in expression no assignment is done.

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

Bacon =22

Bacon+1

1. As no assignment takes place in the last statement, the value of bacon remains the same that is 22 as assigned in the first statement. The statement bacon +1 serves as an expression and not as an assignment.

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

‘spam’ + ‘spamspam’

‘spam’\*3

1. The first code would generate ‘spamspamspam’
2. The second code would generate the same code ‘spam’ concatenated three time that is ‘spamspamspam’

**Note:** Both the statements are equivalent that is they provide the concatenation operation whenever a string is added with another string or a string is multiplied by an integer. The result is a concatenation operation.

**8.**Why is it that eggs is a true variable name but 100 is not?

A) The reason behind is the Python variable naming rules that are:

* A variable name must start with a letter or the underscore character.
* A variable name cannot start with a number.
* A variable name can only contain alpha-numeric characters and underscores (A-z,0-9 and \_)
* Variable names are case sensitive (age, Age and AGE are treated as three different variables)

https://www.w3schools.com/python/gloss\_python\_variable\_names.asp

**9.**Whcih of the following three functions may be used to convert a value to an integer, a floating-point number or a string?

A) In order to convert a variable into an integer or a float or a string we make use of type casting.

Int() ,float() and str() to convert a variable into an integer, a float or a string respectively.

10.What is the error caused by this expression? What would you do about it?

‘I have eaten ‘ + 99+ ‘ burritos’

1. The error caused by the above statement is a TypeError which indicates that the string cannot be concatenated with an integer.

So in-order to resolve it , 99 should be converted into string which can be done the following two ways:

* ‘I have eaten’ + ‘99’ + ‘burritos’
* ‘I have eaten’ + str(99) + ‘ burritos’

Both of them would output : ‘I have eaten 99 burritos ‘