# **Python\_Basics\_Assignment\_1**

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

Ans. The operators are the signs which performs some sort of operations using the operands. Eg. 2+3 = 5, here, 2 and 3 are the operands and ‘+’ is the operator which performs the addition operation to have the result 5.

Where values are some sort of real numbers, list, strings or Boolean expression which can be stored in a variable.

‘\*’ is used as an operator for performing multiplication.

'hello' is a string which can be a value of a variable.

-87.8 is a negative integer value.

‘-’ is the minus operator used for performing subtraction operation.

‘/’ is division operator.

‘+’ is addition operator.

6 is a positive integer value.

1. What is the difference between string and variable?

Ans. In a programming language string is a datatype for bunch of characters which occupies contiguous memory represented as encoded by ‘ ’, which is an information that we store in a variable. Whereas a variable is a name to refer a value.

Eg. x = ‘Subidita’, here x is the variable and “Subidita” is a string.

Spam is a variable.

'spam' is a string.

1. Describe three different data forms.

Ans. In many type of data forms some popular data forms are:

Integer : Numerical real numbers, Eg. 2, -86, 1000 etc.

Float : Numerical decimal numbers. Eg. 3.14, -7.95, 657.7543 etc.

String : Bunch of alphabets or characters. In python there’s no separate variable for single character variable, it’s also considered as string. Eg. “Subidita”, ‘n’ etc.

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

Ans. An expression is consisting of operands i.e. variables, numbers and at least one arithmetic operation which makes sense. Eg. x+y = 10, here x and y are the operands and ‘+’ is the operator which is performing addition operation.

Expressions try to evaluate some value after performing some sort of mathematical operation. In usual expressions we use ‘+’, ‘-’, ‘\*’, ‘/’ which perform addition, subtraction, multiplication and division operations simultaneously. We can also check whether some variable value is equal to, greater than or less than a value by ‘==’, ‘>’ and ‘<’ signs simultaneously.

1. What's the difference between a declaration and an expression?

Ans. The declaration of a variable is assigning a value to a variable. In python, it’s defined as x=10 means x variable will hold 10 value.

Writing an expression is to defining some relation with the left-hand operands with the right-hand operands. Eg. if a == 5, checks if the value of a is 5 or not and gives True or False accordingly.

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

bacon = 22

bacon + 1

Ans. The variable bacon is still 22 as bacon + 1 is not assigning the value back in the bacon variable.

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

Ans.

'spam' + 'spamspam' -> ‘spamspamspam’ (concatenation)

'spam' \* 3 -> ‘spamspamspam’ (multiplying the string 3 times also gives same result)

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

Ans. As we can assign alphabets, bunch of characters and some of the special characters along with alphabets for naming a variable but we can’t assign any integer value as variable name. Though we can take the integer value right after a string or alphabets.

Eg. some valid variable names are n2, a, eggs, note etc. But we can’t assign 10 , 2n etc as variable names.

9. Which of the following three functions may be used to convert a value to an integer, a

floating-point number, or a string?

Ans. To convert any convertible datatype to a integer we use **int()** inbuilt function.

**float()** functionconverts any convertible datatype to float-point number.

**str()** function converts any datatype to a string.

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

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

Ans. The is the following “TypeError: can only concatenate str (not "int") to str

”. As here 99 is an integer and we’re not allowed to concatenate string to integer.

To resolve this matter we need to typecast 99 as string by doing the following,

'I have eaten ' + ‘99’ + ' burritos.'

Or,

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