**Python Basics Assignment No. 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*

Ans:- Values:- -87.8, 6, ‘hello’ and expressions:- \*, -, /, +

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

Ans:- A *variable* is something that holds a value that may change. In simplest terms, a variable is just a box that you can put stuff in. You can use variables to store all kinds of stuff, but for now, we are just going to look at storing numbers in variables.

Lucky=7

print(lucky)

7

This code creates a variable called lucky, and assigns to it the integer number 7. When we ask Python to tell us what is stored in the variable lucky, it returns that number again. We can also change what is inside a variable.

A **string** is simply a list of characters in order. A *character* is anything you can type on the keyboard in one keystroke, like a letter, a number, or a backslash. For example, ”hello” is a string. Strings in python are surrounded by either single quotation marks, or double quotation marks.

‘hello’ is same as “hello”.

*3. Describe three different data types.*

i. Strings:- strings in Python are arrays of bytes representing unicode characters. However, Python does not have a character data type, a single character is simply a string with a length of 1. Square brackets can be used to access elements of the string. The string with no anything in it is called “empty string”.

ii. Integers:- These are special datatypes used for storing the all whole(integer) numbers in python or any other programming language.

E.g. x = 1

Print(type(x))

1

iii. Boolean:- Since Python Boolean values have only two possible options, true or false it’s possible to specify the operators completely in terms of the results they assign to every possible input combination. These specifications are called **truth tables** since they’re displayed in a table.

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

Ans:- A combination of operands and operators is called an **expression**. The expression in Python produces some value or result after being interpreted by the Python interpreter. An expression in Python is a combination of operators and operands.

An example of expression can be : x = x + 10*x*=*x*+10. In this expression, the first 1010 is added to the variable x. After the addition is performed, the result is assigned to the variable x.

E.g. x =10

x + x =25

print(x)

Output:- 35

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

Ans:- An expression is any word or group of words or symbols that is a value. In programming, an expression is a value, or anything that executes and ends up being a value. It is necessary to understand that a value is unique. For example, const, let, 2, 6, 7, 5, 9, true, false and world are values because each of them is unique in meaning or character.

e.g. const price = 500;

A statement is a group of expressions and/or statements that you design to carry out a task or an action.

Statements are two-sided – that is, they either do tasks or don't do them. Any statement that can return a value is automatically qualified to be used as an expression.

e.g. let amount = 500 rs

*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’*

*‘spam’ \* 3*

Ans:- spam

spam

spam

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

Ans :- Because variable’s name cannot begins with a number.

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

*version of a value?*

Ans:- int(), float(), str()

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

*‘I have eaten’ +99+ ‘burritos.’*

Ans:- This expression causes and error because in this line 'I have eaten' and 'burritos' are strings, while 99 is treated as integer. In order to fix the error and print 'I have eaten 99 burritos.', 99 needs '' around it to treat it as a string.