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.

(i) \* - Expression (Mathematical Operator)

(ii) 'hello' - Value (string)

(iii) -87.8 – Value (Floating point Number)

(iv) - Expression (Mathematical Operator)

(v) / - Expression

(vi) + - Expression

(vii) 6 - Value

2. What is the difference between string and variable?

Strings - Strings are a sequence of characters, enclosed in single quotes or double quotes .

Variable - To simplify calculations, values can be stored in variables, and and these can be used as in normal mathematics.

The Variable must not be a Python Keywords, whereas in between the double quotes (or single quotes) anything written between is considered as string .

3. Describe three different data types.

Numeric Data Types –

This Data types the numeric value can be an integer , floating , number, or even complex number. These values are defined as int , float and complex .

Strings Data Type –

The Strings is a sequence of character, i.e. a collection of 1 or more character put during a quotation mark , double-quote, or triple quote . It can be represented using an str .

List Data Type –

A list is formed (or created) by placing all the items (elements) inside square brackets [] , separated by commas . It can have any number of items and they may or may not be of different types (integer, float, strings, etc). A list is also mutable , i.e. we can modify the list.

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

Python has some advanced constructs through which you can represent values and hence these constructs are also called expressions.

Expressions contain identifiers, literals, and operators.

**Identifiers**: Any name that is used to define a class, function, variable module, or object is an identifier.

**Literals**: These are language-independent terms in Python and should exist independently in any programming language.

**Operators**: In Python you can implement the following operations using the corresponding tokens.

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

Expressions are representations of value. They are different from statement in the fact that statements do something while expressions are representation of value. For example any string is also an expressions since it represents the value of the string as well.

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

bacon = 22

bacon + 1

bacon will have variable - 22

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?

Eggs is a valid Variable name because it can contain certain Data . Assigning any data to eggs is valid , but you cannot start a variable name with a number. Hence, 100 is invalid variable name .

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

Integer - int()

Floating Point - float()

String - str()

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

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

Above expression will cause an Error. Because , we cannot use multiple quotes inside the starting and ending quotes .

*We can use double quotes and in that way we can fix the error during the output.*

*Ex-* “'I have eaten ' + 99 + ' burritos.”

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