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.

\* 🡪 expression

'hello' 🡪 value

-87.8 🡪 value

- 🡪 expression

/ 🡪 expression

* 🡪 expression

6 🡪 value

2. What is the difference between string and variable?

String 🡪 This is a datatype in python. This contains the characters wrapped in single and double quotes.

Variable 🡪Variable is a name that is used to reserve memory location to store values. Variable is not a datatype and is not wrapped in single and double quotes. Variable is not a datatype.

3. Describe three different data types.

Boolean - Data type which gives only one of the two output either True or False. Non-Boolean objects can be evaluated in Boolean context as well and determined to be true or false by class bool.

Dictionary – Dictionary is an unordered collection of data values, used to store data values like a map. Dictionary holds data as key-value pair. Key-value is provided in the dictionary to make it more optimized. Each key- value pair in a dictionary is separated by colon(:) whereas each key is separated by a comma(,) .

Set – Set is an unordered collection of data type that is iterable, mutable and has no duplicate elements. Sets can be created by using built-in set() function with an iterable object or a sequence inside curly braces separated by ‘comma’.

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

An expression is made up of values, variables and operators.

An expression is a instruction that combines values and operators and always evaluates down to a single value.

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

Expression 🡪Expressions always returns a value. Expressions can print the result value.

Anything that evaluates to something is a expression.

Eg :- 4 + 5, “Mohit” + ”Vijay”

Statement 🡪 A statement never returns a value. Statements cannot print any result.

Anything that does something is a statement.

Eg :- import, def, try etc.

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

bacon = 22

bacon + 1

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 variables holds value in it. Eggs can hold value .

But 100 is itself a value and a value can’t hold value inside it. This itself is inappropriate.

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

The int(), float() and str() functions will evaluate to the integer, floating- point number and string versions of the value passed to them.

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

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

This expression causes an error as in between of the string expression, we are trying to concatenate a integer value. We can fix it by converting the integer value to string.

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