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.

\* = Arithmetic expression

'hello' = String value

-87.8 = Float value

- = Arithmetic expression

/ = Arithmetic expression

* = Arithmetic expression

6 = Integer value

2. What is the difference between string and variable?

Ans:

String: String is a specific datatype used to represent a group of characters. A string can consists of letters, numbers, special characters or any combinations. In python a sentence also can be a string since there is no limitations of characters and notates in between single or double quotes (“” or ‘’)

Ex: “Hello”, ‘Hi”, “Hello 123”

Variable: A variable consists of any datatype value. Such as string value, integer value, float, and etc.,. A variable stores a value in computer memory.

Ex: message = “Hello class”

3. Describe three different data types.

Ans:

Integer (int): The integer datatype represents whole numbers without any decimal numbers.

Ex: 10, -5

Float (float): The float data type represents number that can have frational parts. Floating-point numbers are used to store real numbers, including decimal numbers and number with exponentials.

Ex: 10.2, 10.0, -80.0

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

Ans:

An expression evaluate by the programming language to produce a single value. They are used to calculate, manipulate the data, make decisions based on the conditions and assign values to the variables.

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

Ans:

Expression: An expression is a combination of values, variable. Operators and the function calls that evaluates a single value. It represents a calculation.

Statement: A statement is a complete instruction or command that performs an action. It may contains expression but they can also include other statements, keywords and control structures. Statement do not produce a value but rather perform an action or change the program’s state.

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

bacon = 22

bacon + 1

Ans: 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?

Ans: Since a variable name do not starts with a number, 100 is invalid variable name and eggs is valid

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

Ans:

Int() : this will convert a value to integer

float(): this will convert a value to floating-point

str(): this will convert a value to string

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

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

Ans: The above snippet is the combination of integer and the string which is not possible to concatenate. So, we can fix it by converting 99 integer value to string by using “99”.

Correct format:

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