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' : Values

-87.8 : values

- : expression

/ : expression

* : expression

6 : values

2. What is the difference between string and variable?

Ans: A string is a data type used to represent text or sequences of characters, such as "Hello, World!", while a variable is a symbolic name used to store and manipulate various types of data, including strings. Variables act as containers for data, allowing for dynamic storage and retrieval of information within a program. In essence, a string is a specific type of data, whereas a variable is a tool for managing and working with different types of data, including strings.

3. Describe three different data types.

Ans:

1. Integer (int): Represents whole numbers (e.g., 25).
2. Floating-Point (float): Represents numbers with decimal points or fractions (e.g., 98.6).
3. Boolean (bool): Has only two values, True or False, used for logical operations (e.g., True).

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

Ans: An expression is made up of operators, operands, and variables combined in a way that represents a computation or a value. Expressions can perform operations like addition, subtraction, comparison, or function calls. They typically produce a value or a result. All expressions, when evaluated, yield a value, which can be of various data types like numbers, strings, or Booleans. In essence, expressions are the building blocks of a program, allowing you to compute and manipulate data within your code.

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

Ans: An expression evaluates to a value and is used for computation, while a statement performs an action or task in a program. Assignment statements, like "spam = 10," are examples of statements that assign values to variables, often using expressions to compute those values.

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

bacon = 22

bacon + 1

Ans: Now variable bacon would contain the value 23.

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

'spam' + 'spamspam'

'spam' \* 3

Ans: 'spam' + 'spamspam' 🡪 spamspamspam

'spam' \* 3 🡪 spamspamspam

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

Ans: It is because variable name should not start with digit.

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

Ans: we can use int(), float(), str() to get the respective value.

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

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

Ans: In python we cannot concatenate the string with integer. For fix this issue we have to convert integer value into the string.

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