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?

**The string is a piece of information whereas a variable is a storage unit of information**

3. Describe three different data types

**a. String : Strings (also known by keyword str) are sequences of character data. String may be delimited using either single or double quotes. All the characters between the opening delimiter and matching closing delimiter are part of the string. Strings can be modified (also called mutable) and manipulated and traversed through.**

**b. Integers : Also known by keyword *int* , integers can be based upon binary, octal or hexadecimal in addition to the commonly used decimal system.**

**c. Lists : Lists are one of 4 built-in data types in Python used to store collections of data, the other 3 are Tuple, Set, and Dictionary, all with different qualities and usage. Lists are created using square brackets. Lists can also be modified like strings (mutable) and manipulated and traversed through.**

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

An expression is a combination of operators and operands that is interpreted to produce some other value. Type of expressions and what they do is as below :

* **Constant Expressions: These are the expressions that have constant values only. (like x=10+3, print(x) )**
* **Arithmetic Expressions: An arithmetic expression is a combination of numeric values, operators, and sometimes parenthesis. The result of this type of expression is also a numeric value. The operators used in these expressions are arithmetic operators like addition, subtraction, etc. Here are some arithmetic operators in Python:**
* **Integral Expressions: These are the kind of expressions that produce only integer results after all computations and type conversions.**

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

**An “expression” is a combination of values and functions that are combined and interpreted by the compiler to create a new value, as opposed to a “statement” which is just a standalone unit of execution and doesn't return anything**

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

bacon = 22

bacon + 1

**bacon will contain the value 23**

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?

**100 is a predefined integer value whereas eggs will be assigned a value for further operation**

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

**Int()**

**Float()**

**Str()**

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

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

**'I have eaten ' + ‘99’ + ' burritos.' – When we are doing string addition, all values must be of string data type**