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.

\*

'hello'

-87.8

-

/

6

**Answer1**: Here values are - ‘hello’, -87.8, 6

Here expressions are - \*, -, /, +

2. What is the difference between string and variable?

**Answer2**:

* Variable: A variable is a kind of storage where we store information. Information can be of any type it may be int, float, String, Boolean, etc. example: - a=20, b=” hello”, here a, b are variables
* String: A string is a type of information we can store in a variable like for example a=” hello” here a is a string variable.

3. Describe three different data types.

**Answer3:**

* **Int:** which store integer value example: 2,3,4,67 etc.
* **String:** which stores string type values example: “hello”, “this is a string”.
* **Boolean:** which stores Boolean values which can be either True or False.

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

**Answer 4:**

Expression is a combination of operators and operands. We have different types of expressions in python:

* Arithmetic Expression: the combination of numerical values, and operators. The result is a numeric value e.g.-Addition, Subtraction, Division, Multiplication.
* Relational Expression: These are the expressions we generally use for comparisons between the values for e.g.-‘>’,’<’,’!=’ etc.
* Logical Expression: These include ‘and’, ‘or’, ‘not’ returns Boolean value either true or false.
* Bitwise Expression: here computations are performed at bit level e.g.- ‘>>’, ‘<<’

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

**Answer 5**: A statement represents an action or command. Whereas the expression is a combination of operations and produces a result value

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

bacon = 22

bacon + 1

**Answer 6:** 22

As we added 1 to bacon but never reassigned the new value of bacon to itself that’s why bacon value will not get incremented.

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

'spam' + 'spamspam'

'spam' \* 3

**Answer 7:** i): spamspamspam , ii) spamspamspam

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

**Answer 8**: All integer values, float values, Boolean, and Keywords cannot be used as a variable name. That is why we can use eggs (not a keyword) as a variable name, but not 100(which is an integer).

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

**Answer 9:**

* int() can be used for getting integer values
* float() can be used for getting float values
* str() can be used for getting string values.

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

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

**Answer 10:** We cannot concatenate str value to an integer value we can only concatenate it with string.

We can use : 'I have eaten ' + str(99) + ' burritos.' Here str() function will typecast int value 99 to string