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.

\* (mathematical operator)

'hello' (String)

-87.8 (Float)

- (mathematical operator)

/ (mathematical operator)

* (mathematical operator)

6 (Integer)

2. What is the difference between string and variable?

String is a data type. Anything entered between quotes is a string whereas a variable is a temporary memory that holds data. Variables can hold any data type.

3. Describe three different data types.

* **Sequence data type –** sequence data type has collection of data. List, tuple and range are the examples of sequence data type.
* **Text data type-** anything in between the quotes considered as text data type. String is an example.
* **Numeric data type-** is of numbers. Integer, float, and complex are the examples of numeric data types.

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

Expression is a combination of mathematical operators and operands. An expression can do math functions.

For example a+b is an expression, this will do the addition of two variables ‘a’ and ‘b’.

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

Expression is a combination of mathematical operators and operands. Spam=10 is a variable. If this spam=10 used in an expression, this will be an operand.

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

bacon = 22

bacon + 1

bacon will contain 23.

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

'spam' + 'spamspam' this will concatenate 'spam' with 'spamspam'.

The output will be spamspamspam

'spam' \* 3 this will multiply the ‘spam’ three times. The output will be the same as above.

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

There are some certain rules for assigning variable names

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If we assign 100 as a variable name for an integer 5 as 100=5 and the expression is 100\*3, then the output will be 300 not the desired output 15 whereas eggs=5 will give a output 15 for the expression eggs\*3.

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.'

By converting the 99 into string type using str() function.

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

The output will be I have eaten 99 burritos.