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 (Multiplication operator)

'hello' - value (String)

-87.8. - value (float)

- - Expression (Subtraction)

/ - Expression (Division)

* - Expression (Addition)

6 - Value (Integer)

2. What is the difference between string and variable?

String is a type of variable. Variable is used to store values of different data type and these values are stored in the memory. String is an information which is assigned to a variable using Single/Double quotes.

Ex: x=’Hello World’

Here x is a variable and Hello World is a string value which is assigned to x.

3. Describe three different data types.

Numberic Data types: Used to store numeric values

* Integer: Contains whole numbers without decimals/Fractions.

Ex: 5

* Float: Stores decimal values

Ex: 5.6

* Complex : Specified by real part and imaginary pary

Ex: 2+3j

String Data type: Collection or sequence of characters specified by single /Double quotes. String variables are immutable meaning there values cannot be updated.

Ex: ‘iNeuron’

Boolen Data Type: Boolean data types contains True and False. These are mostly used in Conditions which has to be evaluated to true or false

Ex: Raining=true

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

Expression consist of Operator and operand . If there are more than one operator in any expression then it’s evaluated based on the preceedence

Expressions are used to preform some operations like Mathematical, Logical, Equality, Comparison, Bitwise

Expression is used to evaluate to some value

Ex: c=a+b will add the contents of a and b and assign to c

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

Expression is used to perform some operations and produce a result. Statement is used to display output or assign a value/create variables. Statement doesn’t evaluate any value. Every line is a statement. Statement can have expressions which has to be evaluated first. Like below:

Sum=1+2+3

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

bacon = 22

bacon + 1

**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?

Variable should start with a variable and it can have digits. But you cannot start a variable with a digit. Hence eggs is valid and 100 is invalid

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

Int(), float(), str()

type(variable\_name) – will return the type of the variable

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

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

Because we are trying to concatenate values of different data type. 99 is an integer here.

Convert 99 to string and then concatenate

Two ways:

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

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