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.

\* -> Operator

'hello' -> value

-87.8 -> value

- -> operator

/ -> operator

* -> operator

6 -> value

2. What is the difference between string and variable?

Variables are the names used to store the values and string represents type of data that a variable can store.

Name= “iNeuron”

Name is a variable here and “iNeuron” is a string type value stored inside a variable named Name.

3. Describe three different data types.

Numerical data: int (represents the numerical value without any decimal point)

float (represents the numerical value with decimal point)

string: represents a sequence of characters

bool: represents either True or False

complex: represents complex numbers (a+bj), where a represents real part and b represents imaginary part.

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

An expression is made up of operators and values( values can be directly used or can be referenced by any variable)

A= 2

B= 3

Sum = 10+ 22 ( direct representation of values)

Sum = A+B ( an expression with the values referenced by variables (A,B) and + is the operator used for summation and assigning the result to another Variable named Sum by = operator)

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

An assignment statements is used by = operator , to store values into a variable, whereas expression produces a value (can be of any type).

Result = 2+ 3

2+3 produces 5 as result and = operator used to store that value (produced by the expression) into a variable Result.

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

bacon = 22

bacon + 1

bacon contains 22 only as after the addition we didn’t store the manipulated value again into the variable bacon. If we do so then 23

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

'spam' + 'spamspam'

'spam' \* 3

'spam' + 'spamspam' result will be spamspamspam , + will acts as concatenation operator for strings.But both values should be of string type only.

'spam' \* 3 , produces spamspamspam as output. \* acts as a multiplication operator for string. One value should be of string and other should be int type.

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

eggs is a valid variable, a sit didn’t start with a digit and it didn’t contain any special characters

100 is invalid as it started with a digit.

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

value= “9”

int(value) -> will convert string value to int type if compatable.

float(value) -> will convert string value to float type if compatable.

Value= “def”

int(value), throws an error

float(value), throws an error

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

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

+ will be acts as string concatenation operator if and only if both are of str type.

In the above 99 is of int type. So, throws an error. To resolve this we should change type int to str type.

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