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?

Variable is a place holder in which we can store some values which may include string or numerical values. Whereas, string itself is a value.

Eg. n = ‘neha’

Here, n 🡪 variable

neha 🡪 string

3. Describe three different data types.

String – any alphabetic/numeric value enclosed inside single/double quotes is regarded as string in python  
eg: ‘442B’ , ‘neha joshi’, ’123’

Numeric – integer / floating point numbers / complex

Eg: int – 1,2,3  
 float – 1.2, 23.5  
 complex – 2+5i

List – a collection of data which consists of elements with different or same datatypes

Eg: L= [1,2,3,’neha’,’xyz@gmail.com’,0.56,78523]

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

An expression is made up of some mathematical operators which help us derive o/p in form of either numeric values / comparison operation (in the form of true or false)

Eg: a=12, b=2   
 c= a+b

o/p 🡪 c=14 (numeric)

a>b

o/p 🡪 False

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

Expression evaluates some value   
a+b

Statement does something

Print a

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?

Because 100 is an integer value and by rule/limitation we can’t assign any numeric value as a variable. Eggs is fine because its data type is string.

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

Int(a) , float(a), str(a)

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

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

TypeError: can only concatenate str (not "int") to str

By converting 99 to string   
  
'I have eaten ' + '99' + ' burritos.'

o/p 🡪 'I have eaten 99 burritos.'