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   
  
 \* : Expressions (multiplication operator)

'hello' : Values (string)

-87.8 : Values (float)

- : Expressions (substraction operator)

/ : Expressions (divison operator)

+ : Expressions (addition operator)

6 : Values (integer value)  
  
2. What is the difference between string and variable?  
Solution -

string is a data type which can store set of characters.

Characters can be anything - letters, numbers, special characters or combination of these inside quotes (''or"").

e.g -

var\_str = "ineuron"

variable is an identifier where we store/assign any data.

e.g -

var\_name = "Pankaj" # var\_name is a variable to which we have assigned a string value "Pankaj"

3. Describe three different data types.  
Solution -

Int : Integer type stores integers

String : String type stores set of characters

Boolean : Boolean type stores True or False  
   
  
4. What is an expression made up of? What do all expressions do?

Solution -

Expressions are made up of variables OR values and operators

e.g :

radius = 2 (statement)

Height = 5 (statement)

volume\_cylinder = 3.14\*(radius\*\*2)\*height (Expression)  
  
5. This assignment statements, like spam = 10. What is the difference between an expression and a statement?

Solution -

Statement is used to assign some value into a variable

Expression is used to evaluate some result   
  
6. After running the following code, what does the variable bacon contain?  
  
bacon = 22  
  
bacon + 1  
  
Solution -

bacon will still contain the value 22 as the second statement of adding 1 is not assigned to the variable bacon.  
  
7. What should the values of the following two terms be?  
  
'spam' + 'spamspam'  
  
'spam' \* 3

Solution -

'spam' + 'spamspam' : ‘spamspamspam’  
  
'spam' \* 3 : ‘spamspamspam’  
  
8. Why is eggs a valid variable name while 100 is invalid?

Solution -

Variable name in python can only start with characters or \_ but it can’t start with a number or special characters.

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

Solution -

int()

float()

str()

10. Why does this expression cause an error? How can you fix it?  
  
'I have eaten ' + 99 + ' burritos.'  
  
 Solution -

Expression causes an error because of incorrect data type.

Here, we are using “+” operator to add/concatenate strings with integer