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' => expression

-87.8 => value

- => expression

/ => expression

* => expression

6 => number

2. What is the difference between string and variable?

Variable is a container that hold a value.

String is a one of the data types in python

3. Describe three different data types.

* None Type :

We initialize a value using null in Java. In the same way we can initialize variable using None in python. This is belongs to NoneType

* Numeric:

Numeric has below mentioned three types

* Int : Used to store Integer values
* Float : Used to store float values
* Complex : Used to store complex numbers
* Sequence :

Sequence has below mentioned types

* List : Used to store values in a sequentially. Able to retrieve using index values
* Set : It is Unordered List. NOT able to retrieve values using index
* Dict : Used to store data using Key, Value Pair. Able to retrieve data using keys.
* Range : Used to return sequence of numbers starts from 0 and incremented by 1 by default
* str => Used to string type data
* bool => Used to store Boolean values either true or false

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

expression is a combination of Operator and Operand. It will produce some result after interpreted by Python interpreter

x = 5

x = x + 10 => Its expression

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

Statement is an instruction that python interpreter can execute

x = 5 => It is a statement

expression is a combination of Operator and Operand. It will produce some result after interpreted by Python interpreter

x = x + 10 => It is expression

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

bacon = 22

bacon + 1

Above code produce result as 22 only. After incremented bacon value as 1, new value is NOT stored in bacon variable. It hold old value only.

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

'spam' + 'spamspam' => concatenation happens using + symbol

'spam' \* 3 => concatenate “spam” string into 3 times

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

Variable name should be string type or it should start with underscore.

Eggs is valid variable name. As 100 belongs to int type, Its not a valid variable name

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

We can use int(), float(), str() function to get int, float and string version of a value

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

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

We can able to concatenating strings. Here 99 is Integer type. So need to convert integer into string type and then concatenate.