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

**Answer:**

**Values:**’hello’, -87.8,6

**Expression:** \*,-,/,+

2. What is the difference between string and variable?

**Answer:**

**Variable:**

* Variable is used to store/hold the data with any datatype.
* Variable is a symbolic name and it has associated value and this associated value can be changed.

Eg: b=5,b=’Robert’.

**String:**

* String is one of the datatype object in python.
* String are ordered sequence of characters.
* It supports indexing and slicing
* It is immutable.
* Anything in ‘’ or “” is a string for python.

Eg:’hello’,”science” ,’156’

3. Describe three different data types.

**Answer:**

* **Number**
  1. Integer – Whole numbers – eg:100,200,5
  2. Float – Number with decimal point – eg:100.00,47.23
* **String**

1. Strings are ordered sequence of characters.
2. It supports indexing and slicing.
3. It is immutable.
4. Anything in ‘’ or “” is a string for python.

Eg:’hello’,”science” ,’156’

* **List**

1. [] or list ()
2. It supports indexing and slicing.
3. It is mutable.
4. It can contain all datatypes.

Eg: [1,2.5,’Hello’,[1,2,3],{‘k1’:10},(1,2,3).{1,2,3},True,1+1j]

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

**Answer:**

Eg:result = a+b+c

Result= variable to store the expression value

a=operand1

b=operand2

c=operand3

+=operator

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

**Statement:**

a=16 - Assignment statement

print(a) – print Statement

**Expression:**

a,b=1,2

a+b,a-b,a\*b,a/b,a//b,a\*\*b,a%b

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

bacon = 22

bacon + 1

**Answer:**

22

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

'spam' + 'spamspam'

'spam' \* 3

**Answer:**

‘spamspamspam’

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

**Answer:**

Variable name will not start with a number.

* Eggs – valid variable
* 100 – Invalid Variable

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

**Answer:**

* int()
* float()
* str()

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

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

**Answer:**

‘+’ means concatenation in string.

It will show error like **‘can only concatenate str(not int) to str’.**

To fix this error,

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

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