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?

ANS:

| **String** | **Variable** |
| --- | --- |
| 1. String is type of variable.String Can contain combination of letters,numbers | 1. Variable can contain specific data like some contain integer type numbers,some can contain Float data type,some contain string data type |
| 2. String cannot be always converted into other Data type. | 2. each and every variable can be converted into string |
| 3. String is Datatype | 3. Variable is the entity whose value can be changed during Running of Program |

3. Describe three different data types.

ANS:

* int :- we can use to represent the whole/integer numbers. In Python as there is long data type not available we can store long data type in the int data type. Int data type is immutable .

eg. a=10

type(a) ⇒ <class ‘int’>

* bytes :- bytes data type can be used to represent a group of numbers just like an array.

Range of bytes data type is from 0 to 255.

Byte Data type is immutable

eg. x=[10,20,30,40]

b = bytes(x)

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

ANS: Expression is made up of different types of operators like arithmetic operator, logical operator

Expression is used to calculate desired result using the operators.

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

ANS:

| Expression | Statement |
| --- | --- |
| 1. Expression is made up of different type of operators to calculate the result | 1. Statement is used to change the state of computer |
| eg. x= x+1 | eg. keywords like while, else,if |

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

bacon = 22

bacon + 1

ANS: 22

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?

ANS:- Variable must start with letter or with \_.

as ‘100’ is starting with number its invalid.

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

ANS: int(),float(),str()

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

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

ANS: because 99 is integer type so we cannot add heterogeneous element.

to fix this we need to convert 99 into string using str() function.

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