**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' - values

-87.8 - values

- expression

/ expression

+ expression

6 values

**2. What is the difference between string and variable?**

# A string is a datatype which contains any characters/numbers. It is defined by ' ' / " " / ''' '''.

ex - 'hi this is assignment no 1'

A variable is used to store any value of any datatype. It is a memory location in dynamic memory of our system.

ex a= 'hi' , here a is the name of variable which is defined to store the value 'hi'.

**3. Describe three different data types.**

int - int datatype is used to store integer values.

ex - a = 1, b = 2

str - str is used to store string values.

ex - a = "hi”, b = "hello"

list - list is a type of data type which can store any type of values assigned with a index position. list is mutable. it is represented by [ ]

ex - a = [1,2,'a', 'b’, [1,2,3]]

tuple - tuple is like list but is not mutable. it is represented by ( )

ex - a = (1,2,3, 'h', 'hhh' , [2,3,4])

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

Expressions are made up of variable, operators and values.

Any valid expression returns a definite value.

ex - 2+3 , this will return 5

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

An expression will return a value only, but a statement reprsents a command and it may or may not return an output depending on the statment. It uses keywords to instruct compiler to execute a definte set of action.

In spam = 10 , the value 10 is being assigned to variable spam. But no return is given to user.

But print (spam) statment will print the value of 10.

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

**bacon = 22**

**bacon + 1**

bacon = 22

bacon + 1

bacon contains 22 only after execution, as no assigment is taking place after bacon +1 is being executed.

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

**'spam' + 'spamspam'**

**'spam' \* 3**

output

'spam' + 'spamspam' - > 'spamspamspam'

'spam' \* 3 -> 'spamspamspam'

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

A variable name can be anything but cannot start with integers or cannot be keywords. That's why eggs is a valid variable name but 100 is not.

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

Below functions can be usedto get respective data type.

int() - integer

float() - float

str() - string

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

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

We cannot concatenate string and integers.

Fix -

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