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 is the name that can store different type of values (int, float, char, string).

String is the combination of character values that can be store in the variable.

**=========================================================**

3. Describe three different data types.

**Answer:**

Int: integer is the datatype which is used to store the whole numbers

Ex: 1, 11, -111.

Float: float is the datatype which is used to store the fractions

Ex: 1.01, 12.05.

String: String is the datatype which is used to store the sequence of characters.

Ex: “Pranit”, “The one”.

**=====================================================**

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

**Answer:**

Expression generally made up of the variable, values and the operator.

Expressions are used to calculate the value of the unknown variable by using the other values and operators.

**======================================================**

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

**Answer:**

Given assignment statement spam=10, this statement just assigning the values to the variable, where as the expression is used to calculate the value of the unknown variable using the known values.

Ex: x=10+90 (expression)

**======================================================**

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

bacon = 22

bacon + 1

**Answer:**

The value of the bacon will remain same as the **bacon + 1** is not updating the value of the **bacon**.

**Therefor: bacon contains 22**

To update the value the full expression has to be used (bacon=bacon+1)

**=======================================================**

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

'spam' + 'spamspam'

'spam' \* 3

**Answer:**

'spam' + 'spamspam' =’'spamspamspam’

'spam' \* 3= 'spamspamspam’

**===============================================================**

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

**Answer:**

Eggs is the valid variable as it follows the rules of the variable name, variable name can contain the character, number and also underscore and it should start with character only not a number.

While 100 does not follows the naming convention of the variable name.

**==========================================================**

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

**Answer:**

Below 3 functions can be used to get the desirable outcome:

Let’s take a=10.

To get the integer we can use int() function: a= int(a)

To get the float we can use float() function: a= float(a)

To get the string we can use str() function: a= str(a)

**===========================================================**

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

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

**Answer:**

Above expression cause an error as we cannot add the string with the numbers, however we can convert the number to string and then concatenate those value.

The fixed code should be:

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

The output will be: I have eaten 99 burritos.

**===========================================================**