**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 are 'hello', -87.8, 6
* Expressions are \*, -, /, +

2. What is the difference between string and variable?

**#answer:**

* String is data type that contains more than one character. it can be letters, numbers etc.,
* Variable is used to store values in programming. As name suggests, the value of the variable can be changed depending on program condition or while assigning value.

e.g. D = “Data Science”

x = 125

3. Describe three different data types.

**#answer**

* Integer (Int) is numerical data type that is as whole number. e.g., 786
* Float is also numerical datatype that is decimal numbers. e.g., 7.036
* String(Str) is contains more than one character and same can be combination of letters or alphanumerical .String has to be defined with in ‘single quotes’ or “double quotes”.
* Bool is Boolean data type, that has True = 1, False = 0.

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

**#answer.**

* Expression is made of Operators like (+, -, \*, /, =) and operands/values.
* all expressions do operations as per the operator used in a code. E.g. Operator = assigns the value, \* is used for multiplication.

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

**#answer**

* Expression evaluates to a value. e.g. Spam + 1
* While a statement does something like assignment or any other operations. e.g. Spam =11

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

bacon = 22

bacon + 1

**#answer**

* Bacon contains 23
* its 23 as we add 1 to bacon value 22 in the second command.

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

'spam' + 'spamspam'

'spam' \* 3

**#answer**

* first term adds string 'spam' to second string 'spamspam' hence the result will be 'spamspamspam'
* second term multiplies the string 'spam' into 3 times, hence the result is 'spamspamspam'

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

**#answer**

* the variable ‘eggs’ start with a character hence it is valid variable name.
* however, the 100 is full numerical and not start with any character hence it is not valid variable name.

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

**#answer**

* int() for Integer. e.g, I = int(100)
* float() for Floating-point number. e.g., f = float(100)
* str( ) for String. e.g., str(100)

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

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

**#answer**

* the concatenation expression can't be done between String and Interger. hence we're getting above error.
* alternatively, we can make the number 99 into String using either single or double quotes and perform the expression, or else using str() function the number 99 can be converted into string and concatenated.
* e.g. 'I have eaten ' + '99' + ' burritos.'
* 'I have eaten ' + str(99) + ' burritos.'