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.

ANS:-

\* -> EXPRESSIONS

'hello' -> VALUES

-87.8 -> VALUES

- -> EXPRESSIONS

/ -> EXPRESSIONS

* -> EXPRESSIONS

6 -> VALUES

2. What is the difference between string and variable?

ANS:-

A Variable is a store of information, and a String is a type of information you would store in a Variable. A String is usually words, enclosed with "" Eg String x ="Welcome to SoloLearn" X is the Variable, and we declared it as a String, use the single = to assign the text to it.

3. Describe three different data types.

ANS:-

### 1. Integer

Integer data types often represent whole numbers in programming. An integer's value moves from one integer to another without acknowledging fractional numbers in between. The number of digits can vary based on the device, and some programming languages may allow negative values.

### 2. Floating point (real)

Floating-point data types represent fractional numbers in programming. There are two main floating-point data types, which vary depending on the number of allowable values in the string:

* FLOAT:-  A data type that typically allows up to seven points after a decimal.
* DOUBLE:-  A data type that allows up to 15 points after a decimal.

### 3. String

A string data type is a combination of characters that can be either constant or variable. This often incorporates a sequence of character data types that result in specific commands depending on the programming language. Strings can include both upper and lowercase letters, numbers and punctuation.

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

ANS:-

An expression is a construct made up of variables, operators, and method invocations, which are constructed according to the syntax of the language, that evaluates to a single value.

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

ANS:-

An expression evaluates to a single value. A statement does not.

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

bacon = 22

bacon + 1

ANS:-

The bacon variable is set to 22. The bacon + 1 expression does not reassign the value in bacon (that would need an assignment statement: bacon = bacon + 1).

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

'spam' + 'spamspam'

'spam' \* 3

ANS:-

Both expressions evaluate to the string 'spamspamspam'

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

ANS:-

Because variable names cannot begin with a number

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

ANS:-

The int() , float() , and str( ) functions will evaluate to the integer, floating-point number, and string versions of the value passed to them.

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

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

ANS:-

'I have eaten ' + 99 + ' burritos. ' The expression causes an error because 99 is an integer, and only strings can be concatenated to other strings with the + operator. The correct way is I have eaten ' + str(99) + ' burritos.