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

-

/

Solution:

\* , - , /, + are Expressions,

‘hello’ , -87.8 , 6 are values.

2. What is the difference between string and variable?

String : A String is a collection of characters, numbers and special characters which is represented within double quotes or single quotes. ***Strings have immutable data elements once generated That is; string elements cannot be changed once string is created.***

Variable: A Variable is a placeholder for which the values are assigned. It is an identity of a value. Basically, a variable is a memory location that is used to store the particular value. ***A value hold by a variable can be changed during the execution of the program***

3. Describe three different data types.

The data types used in Python are:

1. Integer: The numbers or digits is represented using integer with short form/ syntax as int. Both the positive and negatives numbers are considered. It takes integer ranges from -231 to 231 -1
2. Float: The float data type takes the real numbers with decimals which is accurate upto 15 decimal places.
3. String: Strings are the collection of characters enclosed with single or double quotes.
4. Boolean: Boolean data type is used to store the values true or false.

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

An Expression is a statement that comprises of operators and operands(variables and constants).

Every expression results to a value of certain data type so that the value can be assigned to a variable.

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

Expression: An expression consists of operators and operands which results a value.

Statement : A Statement is a specified action or command.

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

bacon = 22

bacon + 1

Solution:

Running the code gives output of 23

The Variable bacon contain 22 as assigned.

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

'spam' + 'spamspam' => Output: 'spamspamspam'

'spam' \* 3 => Output: 'spamspamspam'

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

Variable names are the identifiers that can be given in terms of characters (other than the keywords), start with underscore but not with any other symbols and the numbers are invalid because it triggers an error as ***“cannot assign to literals”.***

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

Solution: ***Int(), float(), str()*** can be used to get integer, floating-point number or string versions of a value passed to them.

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

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

Solution: The Expression causes an error because an integer is concatenated to String.

To fix this error, we have to either remove the Integer or write the Integer in terms of String

'I have eaten '+' burritos.'

Output: 'I have eaten burritos.'

Or

'I have eaten '+'Ninty nine'+ ' burritos.'

Output: 'I have eaten Ninty nine burritos.'

​