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:

**\* = multiple operator**

**‘hello’ = string**

**-87.8 = floating operator**

**- = subtraction operator**

**/ = division operator**

**+ = addition operator**

**6 = integer data type**

2. What is the difference between string and variable?

* **Variable are symbols that can use to store data in a program. you can think of them as an empty box that you fill with some data or values.**
* **String are data, it is used for fill the data into a variables.**

3. Describe three different data types.

* **Numeric data type: it is used to hold the numeric values like int, float and complex.**
* **String datatypes: it is traditionally a sequence of character. collection of one o or more characters put in a single quote, double-quote or triple-quote.**
* **Boolean data type: it is used to represent the truth value of an expression.**

**example:**

1. **1 <= 2 is true**
2. **0 == 1 is false**

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

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

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

Ans: **Spam=10 is a statement where it is assigning a value of the variable ,expressions are something which yields value by having combinations of operators and operands, in fact, expression is also a statement consists of all the lines in the program.**

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

bacon = 2

bacon + 1

Ans: **bacon = 22**

**bacon + 1**

**After running the program it gives the output of bacon variables contain 23.its means increment process can be executed, so only bacon contains 22 to 23(temporarily).**

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

'spam' + 'spamspam'

'spam' \* 3

Ans:

**'spam' + 'spamspam'**

**Output: spamspamspam**

**'spam' \* 3**

**Output: spamspamspam**

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

Ans: **variable names cannot begin with a number, because number is a numeric data types, datatypes cannot be assign as a variables its give an syntax error like Syntax Error: can't assign to literal.**

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

Ans: **str()  
 int()  
 float()**

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

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

Answer:

* **python add only string datatypes but here we have string and integer also .so it not able to add, its shows Type Error: can only concatenate str (not "int") to str.**
* **Now change the integer into string datatypes using single quotes, example**

**'I have eaten ' + 99 + ' burritos.' 🡪 'I have eaten ' + ‘99’ + ' burritos.**

* **Now, the expression get solve string datatype start run, its shows output: I have eaten 99 burritos.**