***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:**

Arithmetic operator.

String value.

Float value.

Arithmetic operator.

Arithmetic operator.

Arithmetic operator.

Integer.

***2. What is the difference between string and variable?***

**Answer:** Variable is an alphabet that can be used to store the data during programming. String is any data, shown in “ ”.

In general, string is a type of information, which can be assigned or stored in a variable.

Ex: B = “welcome”.

Here, B is representing a variable and “welcome’’ is a string.

***3. Describe three different data types.***

**Answer:**

Text type data - String

Numeric type data – Integer, Float, Complex

Sequence type data – List, Tuple, range

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

**Answer:**

An expression is made-up of operators and operands. In other words, an expression is combination of values, variables and operators that is interpreted to produce some other value. Types of expressions –

1. Arithmetic expression – perform the mathematical calculation using arithmetic operators like +, -, \*, /, etc.
2. Relational / conditional expression -- compares two operators using relational operators,

such as >, <, >=, <=, etc.

1. Logical expression- uses the logical operators, such as and, or, and not. It produces a boolean value, either true or false value.

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

**Answer:**

1. A statement is line of code that performs some action, where as an expression is any section of code that can be evaluated to return a value.
2. Every expression can be used as a statement (whose effect is to evaluate the expression and ignore the resulting value), but most statements cannot be used as expressions.

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

bacon = 22

bacon + 1

**Answer:**

22 only. The expression bacon + 1 does not reassign the value in bacon itself unless assign the bacon + 1 to a variable, like bacon = bacon + 1 (or) A = bacon + 1

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

'spam' + 'spamspam'

'spam' \* 3

**Answer:**

Both expressions evaluate to the string 'spamspamspam'

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

**Answer:**

Variable names must start with the alphabets. Numbers cannot be used in the initial position, however they can be used in other positions within the variable name.

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

**Answer:** If we want to know the data type of a variable, the following casting functions can be used.

int()

float()

str()

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

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

**Answer:**

Strings and integers cannot be added to each other. In the above question, 99 is an integer and rest of things are strings.

The correct way to fix the above problem is, ‘I have eaten ‘+ str(99) +’ burritos’.