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:**

\* : This is an operator which will be used for multiplication purpose.

'hello' : This is a string value

-87.8 : This is a signed integer value

- : This is a minus operator

/ : This is a division operator

+ : This is a addition operator

6 : This is a value

2. What is the difference between string and variable?

**Answer:**

A String is a type of a data or data type. A variable is a name of an address of a memory location where a data of any data type is stored

3. Describe three different data types.

**Answer:**

**Integers** : This value is represented by int class. It contains positive or negative whole numbers . In Python there is no limit to how long an integer value can be.

**Float** : This value is represented by float class. It is a real number with floating point representation. It is specified by a decimal point. Optionally, the character e or E followed by a positive or negative integer may be appended to specify scientific notation.

**String** : In Python, Strings are arrays of bytes representing Unicode characters. A string is a collection of one or more characters put in a single quote, double-quote or triple quote. In python there is no character data type, a character is a string of length one. It is represented by str class.

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

**Answer:**

An expression is made up of operators and operands (values) and it will return us a resultant value.

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

**Answer:**

A statement is some valuable code that does not appear in an expression context; and

An expression is code that appears in a context where the resulting value can be consumed through substitution of the expression.

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

bacon = 22

bacon + 1

**Answer:**

22

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

'spam' + 'spamspam'

'spam' \* 3

**Answer:**

'spamspamspam'

'spamspamspam'

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

**Answer:**

A variable name must start with a letter or the underscore character.

A variable name cannot start with a number.

A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_ ).

Variable names are case-sensitive (name, Name and NAME are three different variables).

The reserved words(keywords) cannot be used naming the variable.

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

**Answer:**

int(value) : integer

float(value) : Float

str(value) : String

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

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

**Answer:**

An integer cannot be added with a string. To do so we need to convert integer to a string by casting it using str()