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.

\* Expression/ operator

'hello' Value

-87.8 Value

- Expression/ operator

/ Expression/ operator

* Expression/ operator

6 Value

2. What is the difference between string and variable?

A string is a value representing text. A variable is a name that can refer to any value, it is something that stores data - it can store a string, int, float, class, etc.

For Example: In the below expression,

A = ‘Hello’

A is a Variable and ‘Hello’ is string

3. Describe three different data types.

It represents the kind of value that tells what operations can be performed on a particular data.

* String : 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.

Example a = ‘Hello’

* Numeric : Integer, Float, Complex Number

Integer : It contains positive or negative whole numbers (without fraction or decimal)

Example a = 45

Float : It is a real number with floating point representation. It is specified by a decimal point

Example a=45.67

Complex Number : It is specified as (real part) + (imaginary part)j.

For example – 2+3j

* Boolean

Data type with one of the two built-in values, True or False.

Example x = TRUE

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

An expression is a combination of values, variables, operators, and calls to functions.

It is an instruction that combines values and operators and always evaluates down to a single value. For example,

2 + 2

a+b-37

Expression always return a value

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

Expression always return a value, statement doesn’t. Statement cannot print any value

Example for expression:

4+5

Example for Statement:

Conditional statements, loop statements

N = 6

If(N%2 == 0) :

Print (“Even”)

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

bacon = 22

bacon + 1

22

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

'spam' + 'spamspam'

‘spamspamspam’

'spam' \* 3

‘spamspamspam’

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

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?

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.'

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.'

Or

‘I have eaten ' + ‘99’ + ' burritos.'