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

Values are : ‘hello’, -87.8,6

Expressions are : \*,-,/,+.

2. What is the difference between string and variable?

A Variable is a store of information, and a String is a type of information you would store in a Variable.

3. Describe three different data types.

Three data types are as follows:

1. Integer (int): Integer is the most common numeric data type used to store numbers without a fractional component, for example (-707, 0, 707).
2. String (str or text): String is a sequence of characters and the most frequently used data type to store text. Additionally, a string can also include digits and symbols, however, it is always treated as text.

For Example, a phone number is stored as a string (+1-999-666-3333).

1. Boolean (Bool): A boolean is a logical data type that can have only the values true or false. Sometimes a boolean value is also represented as 0 (for false) and 1 (for true).
2. What is an expression made up of? What do all expressions do?

An expression is a combination of operators and operands that is interpreted to produce some other value. In any programming language, an expression is evaluated as per the precedence of its operators. So that if there is more than one operator in an expression, their precedence decides which operation will be performed first.

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

An expression evaluates to a single value. A statement does not. Like in spam = 10, ‘spam’ is the statement and ‘spam = 10 is the expression’.

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

bacon = 22

bacon + 1

The bacon variable is set to 20. The bacon + 1 expression does not reassign the value in bacon (that would need an assignment statement: bacon = bacon + 1)

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

'spam' + 'spamspam'

'spam' \* 3

Both expressions will evaluate to the string 'spamspamspam'

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

Eggs is a valid variable name while 100 is invalid because 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() function will evaluate to the integer.

Float() function will evaluate to the Floating-point number.

Str() function will evaluate to the string.

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. Typecasting of ‘99’ will fix the error.