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:** Expression - \*, -, /, +

Value – ‘hello’, -87.8, 6

2. What is the difference between string and variable?

**Answer**: String is a sequence of characters while variable is something that holds the value whether it be integer, string, Boolean etc.

3. Describe three different data types.

**Answer**: Below are the 3 different data types

Numeric Data types: Any data type which have data as numeric value. For eg. Integers, Floating Point

Boolean: Data type with one of two built-in values True or False.

Strings: String is a sequence of characters. Anything value inside ‘ ‘ is string. For example ‘5’ is a string.

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

**Answer**: Expression is a made of operands and operators. Expressions evaluates result of sequence made of operands and operators.

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

**Answer**: Expressions represents something, like a number, string etc. Any value is an expression.

Anything that does something is a statement. Assignment to variable is statement and any value contained in that statement is expression.

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

bacon = 22

bacon + 1

**Answer**: Variable bacon will contain 22.

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

'spam' + 'spamspam'

'spam' \* 3

**Answer**: 'spam' + 'spamspam' will add ‘spam’ and ‘spamspam’ and output will be ‘spamspamspam’

‘spam’ \* 3 will result in addition of word spam 3 times i.e. ‘spamspamspam’

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

**Answer**: Identifier is use to identify variable. An identifier can only start with letter A to Z or a to z or an underscore (\_). Hence eggs is a valid variable name while 100 is invalid.

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

**Answer:** To get integer version of value we can use int(<value>).

To get floating-point version of value we can use float(<value>).

To get string-point version of value we can use str(<value>).

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

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

**Answer**: string can only concatenate with string but 99 is an integer. So to fix this we can use type casting and make 99 as string. Below is correct expression.

'I have eaten ' + str(99) + ' burritos.'