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

'hello' string value

-87.8 Float value

- Expression

/ Expression

* Expression

6 Value

2. What is the difference between string and variable?

A string is a collection of characters and its value doesn’t change. Where as a variable is used to store information on the computer and it can of any data type and the value of it can be changed dynamically through out the execution of the program.

3. Describe three different data types.

There are several data types in Python. Integer, Float, string, bool etc.

Int (Integer) data type stores only a integer value and doesn’t contain any decimal values

Float is a data type that can store decimal values

String is data type that can a collection of alpha-numeric characters

Bool is data type that can store logical values “True” and “False”. True has a value 1 and False has a value 0.

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

An expression is made up of values, variables, operators and call to functions. The evaluation of expression produces a value and hence they can be assigned to a variable.

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

A statement is an instruction Python can execute. Spam = 10 is an assignment statement that can be executed. Where as the right-hand side of the above assignment statement is an expression. As mentioned earlier, an expression is formed by variables, values and operators.

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

bacon = 22

bacon + 1

The value of bacon is still 22, as the bacon +1 is not assigned back to bacon.

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?

A variable in Python cannot start with a number, hence eggs is a valid variable whereas 100 is invalid.

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

Let us assume a variable “num”

int(num) gives an integer if num is a valid number

float(num) gives a decimal number if num is a number

str(num) gives a string value

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

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

99 is an integer value. The above expression can be fixed as below

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