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

-87.8 float

- expression

/ expression

+ expression

6 integer

2. What is the difference between string and variable?

Ans: Strings in python are sequences of character data and are written in double or single quotes. Variable is a named location used to store data in memory.

Eg: X = “Apple”

Here X is the variable and it is assigned/declared as a string datatype – “Apple”.

3. Describe three different data types.

* Lists – These are an ordered sequence or collection of items. Lists are similar to arrays in other languages. They are mutable and the elements can be heterogenous or homogenous in nature. They are written within square brackets and are separated by commas. Eg: mylist = [‘apple’, ‘orange’, 3.14, -10, [1, 2, 3]]
* Strings – These are sequences of data and are written in brackets. Eg: X = “Apple”. Here “Apple” is the string.
* Floats – Numbers with decimal point. Can be positive or negative. Eg: print(-5.1). Here -5.1 is a float and not an integer.

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

An expression in python is a logical line of code that is executed to get some result. It will contain operators, operands and identifiers.

Eg: x = 5 #statement

y = x + 10 #expression

print(y)

ouput: 15

You can perform different operations on operands using expressions.

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

A statement in python is used to create variables or display values. An expression in Python is used to produce a value or result after being interpreted by the python interpreter. So it is evaluated for results. Here, spam = 10, is a statement. It assigns value 10 to spam. Result = 1 + spam, is an expression. When Result is printed, we get the value of 11.

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

bacon = 22

bacon + 1

Variable bacon contains 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?

100 is an integer and can’t be assigned as a variable name. A variable name shouldn’t must with a digit – but with an underscore or character. If there was a letter or underscore before 100 it could have been a variable name.

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

For a value, let’s say 5:

5 is an integer so we can use str(). Similarly we can change “5” from string to integer using int(). To change to float we can use float().

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

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

“I have eaten” + str(99) + “burritos”