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

-

/

**Ans**: ‘hello’, -87.8 are values and \*, -, /, + are expressions.

2. What is the difference between string and variable?

**Ans**: A Variable store the information specified by the user and can be of different whereas a string is a type of variable.

3. Describe three different data types.

**Ans**:

* Numeric datatype: It represents the data that have a numeric value. It is of three types: integer(Like 2, 5,100..), float(Like 9.4, 5.66..) and complex number(Like 2+3j).
* Boolean datatype: It is the datatype with two built-in values, True or False.
* Set datatype: It is the unordered collection of the data type. It is iterable, mutable(can modify after creation), and has unique elements. The set is created by using a built-in function set(), or a sequence of elements is passed in the curly braces and separated by the comma, like { ‘s’, 2, 2.55, ‘b’}.

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

**Ans**: An expression is made up of Operators and Operands. I produces some values after being interpreted by the Interpreter.

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

**Ans**: An expression is a combination of values, variables, operators and calls to function and have a unique value whereas a statement is an instruction that the Python interpreter can execute.

Like in spam = 10, spam, = and 10 are expressions because each of them have a definite or unique value. However, if we take spam = 10 all together, it is a statement.

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

bacon = 22

bacon + 1

**Ans**: 23

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

'spam' + 'spamspam'

'spam' \* 3

**Ans**: For 'spam' + 'spamspam' : spamspamspam

'spam' \* 3 : spamspamspam

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

**Ans**: This is so because a Variable cannot start with a number.

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

**Ans**: int(), float() and str()

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

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

**Ans**: This expression shows an error because 99 is an integer and 'I have eaten ' and ' burritos.' are strings and we cannot add an integer and string together like this.  
Alternatively, we can use the following expression to correct it:

'I have eaten ' + ‘99’ + ' burritos.' The output will be: 'I have eaten99burritos'

If we want proper spacing between all, we can use the following:

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