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

ANS: Values - 'hello' , -87.8 , 6

Expression - \* , - , / , .

2. What is the difference between string and variable?

Ans: String is a datatype, which is a sequence of characters enclosed in double quotes or single quotes where as Variables are memory locations used to store data values.

example : s = "siri"

s is variable  
s is of type string . "siri" is String.

3. Describe three different data types.

i) String: String is sequence of characters enclosed in single quotes or double quotes.   
 ex: s = "siri"

ii)Numeric types: are used to store numbers. int - to store integer values. float - to store decimal numbers. complex - to store complex numbers.  
 ex: a = 9 - int , b= 9.6 - float , c = 2+3j

iii)List: List is a ordered collection of data.

ex: l = [1,2,3]

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

Ans: An expression is a construct made up of variables, operators, and method invocations, which are constructed according to the syntax of the language, that evaluates to a single value.

ex: a = 8+ 3

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

Ans: Evaluation of an expression always Produces or returns a result value. Execution of a statement may or may not produces or displays a result value, it only does whatever the statement says.

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: 'spam' + 'spamspam' = 'spamspamspam'

'spam' \* 3 = 'spamspamspam'

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

Ans: Rules for creating variables in Python:

A variable name must start with a letter or the underscore character.

A variable name cannot start with a number.

A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_ ).

According to these rules we cannot start a variable with number. so, 100 is invalid

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

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

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

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

Ans: we cannot add string and integer. we can concat only strings.  
  
solution:

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