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.

\* **= it is an operator of Multiplication**

'hello' **= it is String (Value)**

-87.8 **= it is float (Value)**

- **= it is an operator of Subtraction**

/ **= it is an operator of Division**

* **= it is an operator of Addition**

6 **= it is an integer (Value)**

2. What is the difference between string and variable?

**A string is a literal text string, i.e. 'Hello'.  
  
A variable is something that stores data (per se) - it can store a string, int, float, class, etc.**

3. Describe three different data types.

**Numeric data type represent the data which has numeric value. Numeric value can be integer, floating number or even complex numbers.**

**Ex: Integer (int): 2,3,5, etc.**

**Float (float): 34.5,5.34, etc.**

**Sequence Type is the ordered collection of similar or different data types.**

**Sequence can be String, List or Tuple.**

**Ex: String (str): “Sun”, “City”, etc**

**List (list): [1,2,3,4,”Sun”]**

**Boolean data type with one of the two built-in values, True or False.**

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

**An expression made up of operands and operators.**

**An example of expression can be: x = x + 10**

**All expressions produce some value or results after being solved.**

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

**An expression usually refers to a piece of code that can be evaluated to a value**.

**Ex: Expression: 5\*2+4**

**This Expression will yield value 14.**

**A statement refers to a piece of code that executes a specific instruction or tells the computer to complete a task.**

**Ex: Statement: spam = 10**

**This statement performs the action of assigning the variable spam with a value of 10.**

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

bacon = 22

bacon + 1

**After running code , the variable bacon contain value 23.**

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

'spam' + 'spamspam' **the value is ‘spamspamspam’**

'spam' \* 3 **the value is ‘spamspamspam’**

**Both give same values.**

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

**Because variable names cannot begin with a number. 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 \_). Variable names are case-sensitive (age, Age and AGE are three different variables)**

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

The **int() , float() , and str( )** functions will evaluate to the integer, floating-point number, and string versions of the value passed to them

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

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

This expression causes and error because in this line 'I have eaten' and 'burritos' are strings, while 99 is treated as integer. In order to fix the error and print 'I have eaten’ + ‘99’ + ‘burritos.'.

‘99 ‘needs around it to treat it as a string