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.

**Ans: \* : expression**

**'hello' : value**

**-87.8 : value**

**- : expression**

**/ : expression**

**+ : expression**

**6 : value**

2. What is the difference between string and variable?

**Ans: “String” is a data type that starts and ends with a quotation marks but a “variable” is a symbolic name that is a reference or a pointer to an object.**

3. Describe three different data types.

**Ans: String: String is asset of characters that starts and ends with quotation marks.**

**Numeric: Numeric data types stores numbers like integers, decimal numbers, etc.**

**Boolean: Boolean data type represents only “True” or “False” values.**

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

**Ans: An expression is made up of operators (+, -, \*, /) and operands (numbers, strings, etc)**

**All expressions produce some values after being interpreted by python interpreter.**

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

**Ans: In assignment statement, a value is assigned to a variable, but an expression produces a value which can then be assigned to a variable if required.**

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

bacon = 22

bacon + 1

**Ans: The variable bacon still contains the value 22 as the below expression produces a value of 23 but is not assigned to any variable like bacon.**

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: Variable names in python must always start with an alphabet or underscore and cannot start with a number therefore eggs is a valid variable name but 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() of integer, float() for floating point number and str() for string.**

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

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

**Ans: This expression causes an error because operators work differently for numbers and strings, so stings and numbers cannot be operated together in an expression.**

**A valid expression would be if we convert number to a string:**

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