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

**Answer:** 'hello',-87.8 and 6 are values. \* , -,/,+ are expressions.

2. What is the difference between string and variable?

String represents a sequence of characters and these cannot be changed once created.

Variable is a container which holds values and we can assign different values to the variables.

3. Describe three different data types.

Boolean: Boolean data types have two values True or 1 and False or 0. These values are returned while evaluating any expression in python.

Integers: This data type is used for positive or negative numeric values without any decimal point. print(type(900)) output of this code will be int type.

List: List is an array of values of different data types. Each value in a list can be accessed using index. List() method can be used to convert a tuple or set into a list.

L=[1,2,’a’,9] is a list of 4 values.

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

Expressions consist of strings, integers and mathematical operators like 3+6 or ‘a’\*2.

Expressions are used to perform arithmetic operations, like other programming languages used to get an output and for comparison in if, while statements.

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

Expression will have operator and operands where operands can be any string or integer and operators will be mathematical operators and it can have combination of multiple operators and operands and produces a value. Ex- 'a'\*2+'kjui'\*2

Statement is any line of code we write in python will be considered as a statement. a='a'\*2+'kjui'\*2 is an assignment statement.

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

bacon = 22

bacon + 1

bacon value will be 23

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

'spam' + 'spamspam' - spamspamspam

'spam' \* 3 - spamspamspam

Both of them will return same output.

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

In python variable names can only start with a letter or underscore and it cannot start with a number. Hence 100 is invalid.

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

int(), float() and str() functions can be used in such cases.

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

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

'I have eaten ' + '99' + ' burritos.' Strings can be concatenated with only strings.