**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.**

\* - Expression

'hello' - Values

-87.8 - Values

- - Expression

/ - Expression

* - Expression

6 - Values

**2. What is the difference between string and variable?**

Ans: Variable is a ID in which the data types or data structures are stored. The string generally written with in single or double quotes.

Ex: 1)Valid Variable: a, \_first, t1, list1\_group, set1, dict1

2) String: “This is the first statement for the string”

**3. Describe three different data types.**

**Data Types:**

**Str**: ‘str’ type are string which are denoted by single quotes or double quotes.

**Int**: ‘int’ data types are integer number without decimal or whole number.

Float: ‘float’ data types are number with decimal.

**Bool**: ‘bool’ data types are True or False.

**Complex**: ‘complex’ data types are complex number ex. 3+4j, 5+10j

**Data Structures:**

**List**: List data structures are elements containing various data types i.e whether int, float, str, bool and complex denoted by within in square brackets [ ]and it is mutable.

**Tuple**: Tuples are data structure which is having elements same as list but it is not mutable and it is denoted within ( ).

**Sets**: Sets are data structure which contain elements of different data types within curly brackets { }. Set do not allow duplicate values.

**Dictionary:** Dictionaries are used to store data values in key and value pairs. Dictionaries are written with curly brackets { }, and have keys and values.

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

Expressions are :

**Arithmetic operation:**

+ - > Addition

- -> Subtraction

\* -> Multiplication

/ -> Division

% -> Divides and gives the remainder

// -> Divides and gives the quotient in whole number

**Assignment Operation:**

= -> assigns the variable with the data types and data structures

**Logical Operators:**

or -> compares both the side and checks either one condition

and -> compares both the side and checks whether both the side condition

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

Expressions will do the mathematical / Arithmetic operations and assignments will assign the variables with the data types or data structures.

**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:** 'spamspamspam'

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

Integer can’t be variable but eggs is string which is valid variable and int with str can be variable

**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 can be used .

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

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

The int can’t be concatenate with the str, to fix this issue we can change the int to str by writing with in single or double quotes.