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

2. What is the difference between string and variable?

**Ans:**

**String** is a sequence of Unicode character. e.g. “Hello World”

**Variable** is a reference or pointer to an object. In simple words we can say that variable is just like a container for storing the values. A variable name must starts with letter or underscore. e.g. name = “Priya”

3. Describe three different data types.

**Ans:**

1. Numeric
2. Integer-It contains positive or negative whole nos. It is represented by int class
3. Floating Point-It is represented by float class and contains decimal nos
4. Complex-It is represented by complex class. It consists of real and imaginary part e.g 2+3j
5. Boolean: It is represented by class bool. It has two built in values True or False
6. Sequence Type
7. String: It is represented by str class. It is a collection of one or more characters, can be put in single, double or triple quotes
8. List: List is used to store collection of data, enclosed in []. Lists are immutable i.e they can be altered after creation of list
9. Tuples: Tuples are collection of objects much like list, except that tuples are mutable and can be accessed via tuple unpacking or indexing.

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

**Ans:** An expression is a combination of values, variables and operators.

1. Arithmetic Expression: combination of numeric values, operators. E.g.

X=2

y=3

add=X + y

1. Logical Expressions: results in either True or False.

X =(2==3)

Y =(3<5)

print(X and y)

1. Bitwise Expressions: computations are performed at bit level

a=10 #0000 1010 (Binary)

x = a >> 1

print(x)

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

**Ans:** An expression is a combination of values, variables and operators. E.g.

10, x, x+10

Statement is a unit of code which a python interpreter can executes. Statement can do something. Expressions are part of statements.

e.g. spam = 10

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

bacon = 22

bacon + 1

**Ans:** bacon = 23

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

'spam' + 'spamspam'

'spam' \* 3

**Ans:** For both output will be same **spamspamspam**

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

**Ans:** Variable name cannot starts with a number in python.

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

**Ans:**

Integer : int()

Floating-point no : float()

String : str()

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

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

**Ans:** TypeError: unsupported operand type(s) for +: 'int' and 'str'

To fix this we have to typecast the int value to str

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