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'

-87.8

- -> Expression

/ -> Expression

* -> Expression

6

2. What is the difference between string and variable?

Variable is temporary space to store information.

Eg : X = 10 , here X is the variable name and 10 is the value assigned to it

String is a type of information that can be stored in a Variable

Eg : string = “ My name is Rahul”

3. Describe three different data types.

|  |  |
| --- | --- |
| Text Type: | str |
| Numeric Types: | int, float, complex |
| Sequence Types: | list, tuple, range |
| Mapping Type: | dict |
| Set Types: | set, frozenset |
| Boolean Type: | bool |
| Binary Types: | bytes, bytearray, memoryview |
| None Type: | NoneType |

**1. Numeric**

Int -> eg : 3,4,5

Float complex -> 7.5, 6.9, 11.5

complex -> eg : 4+i3

**2.Text type**

**String** Str –sequence of characters

Eg : “ India is my country ”

**3.Sequence data type**

**List**

Format of representation : parenthesis and comma ( , )

Can Contain : Different types of data types (int,str,float)…

List is mutable means can modify

Eg : A = [1,2,3,4,5]

**Tuple**

Format of representation : square bracket separated with comma [ , ]

Can Contain : Different types of data types (int,str,float)…

List is immutable means can modify

Eg : A = (1,2,3,4,5)

**Range**

Eg : x = range(6)

**Mapping type**

Dictionary : Dict

Format of representation : parenthesis and comma ( , )

Can Contain : Different types of data types (int,str,float)…

List is mutable means can modify

Eg : A = [1,2,3,4,5]

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

Expression is made up of operators and operands

Eg : x = x+10

x is variable , 10 is added to it and the value of x+10 is assigned to x

All expressions are representation of values

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

Expression is made up of operators and operands

Eg : x = x+10

x is variable , 10 is added to it and the value of x+10 is assigned to x

All expressions are representation of values

Statements do something ro some actions or operations while expressions are representation of value

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

bacon = 22

bacon + 1

23

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

'spam' + 'spamspam' => 'spamspamspam'

'spam' \* 3 => 'spamspamspam'

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

A variable name must start with a letter , so eggs is valid

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

int() -> int(7.2)

float() -> float(7)

str() -> int(7)

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

'I have eaten ' + 99 + ' burritos.' -> **TypeError**: can only concatenate str (not "int") to str

Corrected Code : 'I have eaten ' + '99 '+ ' burritos.'