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

Elements with string or integer values are –

'hello'

-87.8

6

Elements with expressions values are –

-

/

+

2. What is the difference between string and variable?

Answer

A string is a text string for example “I’m Shivam” or “Shivam”

A variable is something that stores data of different types and it can be int, string, float

3. Describe three different data types.

Three different data types are Sequence Type, Numeric and Boolean

* Sequence Type – It is ordered collection of different or similar data types. String, List and Tuple are sequence types .

**String** is a collection of one or more character which we can put I single or double quote.

Example – string1 = ‘This is first assignment’

String2= “I’m Shivam Jha”

**List** – This is just like arrays and this in ordered collections of data. Items in list don’t need to have same data types. Example – list1 = [‘Shivam’,’Jha’,29]

**Tuple**- This is also an ordered collection of data but the difference between tuple and list is that tuples are immutable i.e. tuples cannot be modified after it is created.

Example - tuple1 = (Shivam, ‘Jha’)

* Numeric- This data type has numeric value. It can be integer, floating number. These are defined as int, float.
* Boolean – This datatype has two values either True or False.

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

Answer- It is a combination of operators and operand which gives some values based on the evaluations.

Expression is an instruction that combine operators and values together and gives result in single value.

Example z = 10 - 2

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

Answer- In this assignment statement an expression is a combination of values, variables, operators. This needs to be evaluated like here this will store value of 10 in variable spam

A statement is an instruction that python can execute like here it will give instruction to interpreter to execute spam = 10 and store the value as 10 for variable spam.

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

bacon = 22

bacon + 1

Answer- 22

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

'spam' + 'spamspam'

'spam' \* 3

Answer - 'spam' + 'spamspam' this will concatenate these two strings together

spamspamspam

'spam' \* 3 this will multiply the same string to itself 3 times. spamspamspam

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

Answer –

eggs is valid variable because a variable name must start with a letter or the underscore character, can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_)

A variable name cannot start with a number that is why 100 is invalid

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

Answer-

int() , float() , and str( ) functions

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

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

Answer-

This expression caused error because this expression has integer and this can only concatenate str to str not "int"

To fix this convert 99 from integer to string as below.

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