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.

Solution:

\* : Mathematical operators

'hello': String

-87.8: integer

- : Mathematical operators

/ : Mathematical operators

+ : Mathematical operators

6 : Integer

1. What is the difference between string and variable?

Solution: A string is a sequence of characters. For example, "hello" is a string containing a sequence of characters 'h', 'e', 'l', 'l', and 'o'. We use single quotes or double quotes to represent a string in Python.

A variable on the other hand is kind of a container used to store data(integer, float, string, etc.). A variable is simply a name given to a memory location in order to access a particular data.

For example:

a= “Hello123”

here ‘Hello123’ is a string and ‘a’ is a variable used to store this string.

3.Describe three different data types.

Solution: Three data types:

1.Integer data type- It consists of whole numbers and negative numbers. For example,

1,2,8, -77, etc.

2.Float data type- It consists of decimal numbers. For example, 88.2, -77.88, 3/5, 4.3.

3. String data type- it is collection of one or more characters enclosed within quotes. For example, ‘Mohan’, “a”, “ ”.

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

Solution: An expression is made of operands and operators. Operators are the symbols which are used to perform mathematical or logical operations for example, +, -, \*, >, <, >= etc. Operands are the values on which mathematical or logical operations are performed.

Expressions are processed in order to give value or result.

For example:

x= 22

x=x+ 10

here this expression is evaluated to give final value if x i.e., 32

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

Solution: A statement in python is used to create a variable or display a value for example, print(“Hello”)

whereas, an expression is used to perform mathematical or logical operations to give the value or result. For example, x=x+ 10

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

bacon = 22

bacon + 1

Solution: 23

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

Solution:

'spam' + 'spamspam' : spamspamspam

'spam' \* 3 : spamspamspam

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

Solution: eggs is a valid variable because, it’s first letter is an alphabet and it does not contain any special characters whereas, 100 is invalid because it is an integer.

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

Solution: Function to get integer – int(). It returns an integer from a given data or converts a number in a given base to a decimal.

Example: int(22.45) o/p:22

Int(‘99’) o/p:99

Function to give floating point number-

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

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

Solution: The above expression causes error because string and integer cannot be concatenated. In order to fix it we can convert 99 into string by putting it inside quotes . For example, ‘99’.