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

Solution:

There are 4 Values and 4 Expressions.

Values: -87.8, 6, 'hello'

Expression: *, -, /, +

2. What is the difference between string and variable?

Solution

Variable: A variable is a store of information

String: String is a type of information you would store in a Variable, String is enclosed in single quotes, double quotes, or triple quotes.

E.g. name = "Rutuja"

here, the name is a variable and Rutuja is a string.

3. Describe three different data types.

Solution

Int: It contains positive or negative whole numbers.

Example:

num = 100

print(num,type(num))

Output: 100 <class 'int'>

Float:

It represents real numbers with floating points.

Example:

num = 100.5

print(num,type(num))

Output: 100.5 <class 'float'>

Complex:

A complex number is represented by a complex class. It is specified as (real part) + (imaginary part) j

Example:

num = 1+1.2j

print(num,type(num))

Output: (1+1.2j) <class 'complex'>

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

Solution: An expression is a combination of operators and operands that is interpreted to produce some other value. In any programming language, an expression is evaluated as per the precedence of its operators.

Example

print(4*5+20-40) #This is an example of expression.

Output:

0

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

Solution:

Statement:

A statement is not evaluated for some results. A statement is used for creating variables or for displaying values.

Example:

Spam=10

print(Spam)

Output: 10

Expression:

Expression is a combination of operands and operators.

Example:

x = 25 # Statement

b = x+5 # Expression

print(b)

Output: 30

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

bacon = 22

bacon + 1

Solution:

bacon = 22

print(bacon + 1)

Output: 23

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

'spam' + 'spamspam', 'spam' * 3

Solution:

a = 'spam' + 'spamspam'

print(a)

Output: spamspamspam

a = 'spam' * 3

print(a)

Output: spamspamspam

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

Solution:

According to the rules of variable name declaration,

Variable names should not start with a number

Therefore, the egg is a valid variable and 100 is invalid.

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

Solution:

int(), float(), str() these are the three functions that can be used to get the integer, floating-point number, or string version of the value

Example:

a = 5.11

b = int(a)

print(type(b),"Value of A: ",b)

c = float(b)

print(type(c),"Value of B: ",c)

d = str(c)

print(type(d),"Value of B: ",d)

Output:

<class 'int'> Value of A: 5

<class 'float'> Value of B: 5.0

<class 'str'> Value of B: 5.0

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

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

Solution:

We can only concatenate string to string.

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

Output: I have eaten 99 burritos.