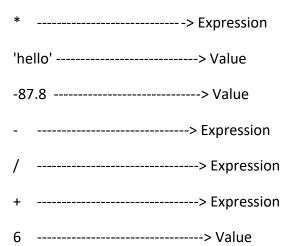
1. In the below elements which of them are values or an expression? eg:- values can be integer or string and expressions will be mathematical operators.

Solution:



2. What is the difference between string and variable?

Solution

A Variable is a store of information, and a String is a type of information you would store in a Variable. A String is usually words, enclosed with "" Eg String x ="Welcome to SoloLearn" X is the Variable, and we declared it as a String, use the single = to assign the text to it.

3. Describe three different data types.

Solution

1. Python Numeric Data Type

Python numeric data type is used to hold numeric values like;

- 1. int holds signed integers of non-limited length.
- 2. long-holds long integers (exists in Python 2.x, deprecated in Python 3.x).
- 3. float-holds floating precision numbers and it's accurate up to 15 decimal places.
- 4. complex-holds complex numbers.

2. Python String Data Type

The string is a sequence of characters. Python supports Unicode characters. Generally, strings are represented by either single or double quotes.

3. Python Dictionary

Python Dictionary is an unordered sequence of data of key-value pair form. It is like the hash table type. Dictionaries are written within curly braces in the form key: value. It is very useful to retrieve data in an optimized way among a large amount of data

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

Solution

An expression is a combination of values, variables, operators, and calls to functions. The expression in Python produces some value or result after being interpreted by the Python interpreter.

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

Solution

Assignment is the process in which Assignment operator (=) is used to assign a literal, value of a variable, the result of any expression or the return value of a method to a variable. Expression is a set of variables, constants, and arithmetical operators.

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

Solution

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

According to the rules of variable assignment in python:

- A variable name must start with a letter or the underscore character
- A variable name cannot start with a number
- A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and)
- Variable names are case-sensitive (age, Age and AGE are three different variables)

Hence eggs is a valid variable while 100 isn't.

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

Solution

Casting in python is therefore done using constructor functions:

- int() constructs an integer number from an integer literal, a float literal (by removing all decimals), or a string literal (providing the string represents a whole number)
- float() constructs a float number from an integer literal, a float literal or a string literal (providing the string represents a float or an integer)
- str() constructs a string from a wide variety of data types, including strings, integer literals and float literals

10. Why does this expression cause an error? How can you fix it? 'I have eaten ' + 99 + ' burritos.'

Solution

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

'+99+' expression is a string concatenation operation and thus accepts only strings. Since 99 is a numeric variable the expression fails and causes error.