1.

Solution:

|  |  |
| --- | --- |
| Elements | Value/Expression |
| \* | Expression |
| ‘hello’ | Value |
| -87.8 | Value |
| - | Expression |
| / | Expression |
| + | Expression |
| 6 | Value |

Q2.

Solution: A variable is a placeholder for any data. In other words, these are symbols used to store data in any programming language. On the other hand, string is a type of data that can be stored in a variable.

Q3.

1. Numeric Data types: As the name suggests, numeric data type represents the data with numeric value. Numeric information can take one of three forms: Integer, Floating point number or Complex numbers.

* Integers – It consists of positive and negative whole numbers without fraction or decimal. For example, 1, -13, 0, 99 etc.
* Floating point numbers – A Floating point number is a positive or negative whole number with decimal point. For example, 0.33, 1.5, -140.87 etc.
* Complex Numbers- The complex data type in python consists of two values, the first one is the real part of the complex number, and the second one is the imaginary part of the complex number. For example, 6 + 7j, 2 – 4j, etc.

1. Boolean Data Type: It represents one of two values: True or False. It’s used to represent the truth value of an expression. For example, 5 == 3 is False, 7 <= 10 is True.
2. Sequence Type: Sequence is the ordered collection of similar or different data types. There are several sequence types in Python:

* String – A string is a collection of one or more characters enclosed in single-quotes, double-quotes, or triple-quotes. The individual elements or characters in a string can be accessed using ***Indexing.*** For example, “Aadil”, ‘Ineuron’, “””Data   
  Science”””
* **List –** Lists are used to store multiple elements in a single variable. The concept of arrays and lists is similar, although, lists are flexible in terms of storing heterogeneous elements in a single list variable. For example, [1,3,5,8], [‘a’,123,”hello”, 1.456], etc.
* **Tuple –**Tuples are just like lists, that is, an ordered collection but unlike lists, tuples are unchangeable or immutable. For example, (1,2,8,9) , (“A”,(2,-1,0),3,9.8), etc.

Q4.

Solution: Expressions are made up of one or more constants, variables, functions, and operators. Or, in simple words, expressions are the combination of operators and operands. Expressions compute or produce another value. For example, x = x + 10 – i

Q5.

Solution: The statement is not evaluated for some results whereas the expression is evaluated for some results. The statement changes the state of the variable whereas the expression evaluation does not change the state of the variable.

Q6.

Solution: The variable bacon contains 22

Q7.

Solution: spamspamspam

spamspamspam

Q8.

Solution: ‘eggs’ is a valid variable name because:

1. It is not a reserved keyword
2. It starts with an alphabet ‘e’
3. It does not contain any special characters

‘100’ is an invalid variable name because it starts with a number.

Q9.

Solution: int(), float() and str() functions can be used to get integer, floating-point number, and string versions of the value, respectively.

Q10.

Solution: This expression will raise a TypeError exception. We are trying to concatenate string value and integer value which results in an error. To fix the error, we need to enclose 99 in quotes. ‘I have eaten’ + ‘99’ + ‘burritos.’