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:
The values are 'hello', -87.8, and 6.
The expressions are *, -, +, and /

2. What is the difference between string and variable?

Answer:
A string is a data type which consists of characters enclosed in quotes (Eg: 'abc', '345', '*56% 9' etc.).
A variable is a reserved memory location used to store values. It can be used to store all data types (integer, string, boolean, lists etc.)

3. Describe three different data types.

Answer:
A. Numeric Data Type
Numeric data type stores data with numeric value. It is of three types - Integers, Float and, Complex numbers.
Integers are represented by int class. They are positive or negative numbers (including 0) that are not fractions or decimals. (Eg: -3, 100, 0 etc.)
Floats are represented by float class. They are real numbers with floating point representation specified by a decimal point. (Eg: -3.4, 5/6, 0.9, 25.7 etc.)
Complex data type is represented by complex class. They have real part and imaginary part (Eg: -3+4j, 9-2j etc.)

B. Dictionary
A dictionary is an unordered collection of data values which stores data values along with their key. The keys are used to access the values.
The values can be of any data type. It can be repeated and can be replaced. But, the key cannot be repeated and should be immutable (hence mutable data types such as lists cannot be used as key).
Eg: D = ['Name': 'Sarah', 2: 4567, (3, 8, 5): "abc"]

C. Boolean
It is denoted by the class bool. it had two in-built values, True and False. It is used to determine whether a given statement is true or false.

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

Answer:
An expression is made up of operators and operands. All expressions provide a value when evaluated.

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

Answer:
Any line in the python script which the interpretor executes is a statement. There are different kinds of statements - print statements, assignment statements, conditional statements, looping statements etc.
An expression (which is a combination of values, variables, and operators) is a type of statement which the interpretor evaluates to provide a value.

6. After running the following code, what does the variable bacon contain?
bacon = 22
bacon + 1

Answer:
The value of bacon remains the same (22) because we are not assigning a new value to the variable.

7. What should the values of the following two terms be?
'spam' + 'spamspam'
'spam'*3

Answer:
'spam' + 'spamspam' = 'spamspamspam'
'spam' * 3 = 'spamspamspam'

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

Answer:
There are certain rules to be kept while naming variables in Python. One rule is that variable names cannot start with a number. Hence, the variable name 100 is invalid. Variable names must start with letters or underscore, and can only contain alpha-numeric characters and underscore.
Thus, eggs is a valid variable name.

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

Answer:
int() can be used to get an integer. float() can be used to get a floating-point number. str() can be used to get a string.

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

Answer:

In Python, heterogeneous data (in this case, an integer, 99) cannot be concatenated with string data types.

To fix this, the integer has to be converted to a string:

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

OR

'I have eaten' + int(99) + 'burritos'