

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.

* (expression use for multiply operation.)

'hello' (string value)

-87.8 (float value)

- (expression use for subtraction operation.)

/ (expression use for division operation.)

+ (expression use for addition operation)

6 (int Value)

2. What is the difference between string and variable?

Ans String is a kind of value which *can be stored in a variable*. String represents text value.

Whilst A Variable is something that *stores* the value within it. Values can be a string, integer, float, Boolean etc. But Variable is not a value itself.

3. Describe three different data types.

Ans Data types are types of format/classification that clarify that, within a particular Variable which kind of data has been stored.

Numeric Data type Numeric data type are those data type which used to hold the numeric value like int – (holds integer values), float – (holds kind of decimal values)

String data type Strings are basically a sequence of alphabets. Strings can be name of anything or can be a sentence. Strings generally represented by either single or double quotes.

Mapping data type Mapping is data type in which values are assigned by their corresponding keys. Dictionary is an example of mapping data type which is represented by {}. For example {'key1' : 'abcd' , 'key2' : 'efgh'}.

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

Ans A expression is a combination of operators and operands.

As a interpreter language Python interpret the expression and generates the result.
For example $x=2*10-5$

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

Ans Expression generates the result/value after being interpreted by the Python interpreter

whilst A statement is used for creating the variables and for displaying values.

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

```
bacon = 22
```

```
bacon + 1
```

Ans `print(bacon) = 22`

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

```
'spam' + 'spamspam'
```

```
'spam' * 3
```

Ans `'spamspamspam'` for both of the statement.

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

Ans A variable name can't start with a number. It must start with alphabet (a-z)/(A-Z). A variable name can be alphanumeric or can be started with underscore("_").

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

Ans The `int()` , `float()` , and `str()` functions will evaluate to the integer, floating-point number, and string versions of the value passed to them respectively.

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

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

Ans Because we can't concatenate the string with integer. To solve this issue we can go with the quoting 99 like '99'. Or we can change the type of 99 from integer to string like str(99).

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

OR

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