

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

Values: 'hello',-87.8,6; Expressions: *,-,/,+

2. What is the difference between string and variable?

String: A string is defined as an ordered collection of characters .In python a single character is also considered as a string.

Variable: A variable is defined as a reference to an object.

The difference is that a string is a datatype and a variable is a symbolic name which can be used to access the object.

3. Describe three different data types.

1. Numeric DataTypes : int, float, complex.

2. Sequence types: list, tuple, range.

3. Mapping data type: Dict.

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

An expression is made up of operators and operands. Expressions are interpreted to produce some value. Expressions are interpreted based on the precedence and associativity of the operators.

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

An expression is an combination of operands and operators which evaluates to a value.

A statement executes something and may or may not produce a result.

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

```
bacon = 22
```

```
bacon + 1
```

As we are not assigning the updated value to the variable bacon, hence the variable bacon contains the value 22.

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

```
'spam' + 'spamspam' → 'spamspamspam'
```

```
'spam' * 3 → 'spamspamspam'
```

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

There are rules to be followed while naming the variables:

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

Hence, `is_eggs` is a valid variable name while 100 is invalid.

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

`int()`, `float()`, `str()`.

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

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

We cannot concatenate a string and an integer. To solve the above error we need to write 99 as a string ('99').

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

