

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

Ans - * (Multiplication Operator)

'hello' (String Value)

-87.8 (Float value)

- (Subtraction Operator)

/ (Division Operator)

+ (Addition Operator)

6 (Integer Value)

2. What is the difference between string and variable?

Ans – A Variable is nothing but a reference identity such that the system can allocate a memory location to a value, whether it can any data types such as int, float, string. Whether, a string is a group of characters enclosed within single or double quotes or triple quotes in case of multi-line string.

3. Describe three different data types.

Ans –

'int' Data type - int data types are to represent all positive or negative whole numbers without any decimal point. Like for example 6, 7, -56 etc.

'float' – float data types are nothing but any real number with a floating point i.e., with a decimal point. For example - 45.78, 8.0, -2.8 etc.

'string' - string is a group of characters (alphanumeric) enclosed within single or double quotes or triple quotes in case of multi-line string. For example, 'sourav', 'ineuron', '45decent', '234' etc.

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

Ans – Expressions are combination of values, variables, and operators such like mathematical operators (+, -, *, /). If we give an expression to the python interpreter then that specific expression will get evaluated to a single value.

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

Ans – Expressions are combination of values, variables, and operators such like mathematical operators (+, -, *, /). Whereas, the statement `spam = 10` will allocate a memory location with a value 10 and assign the reference as `spam`.

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

```
bacon = 22
```

```
bacon + 1
```

Ans –

```
In [5]: bacon = 22
        bacon + 1
        print(bacon)
```

22

As we can see the value assigned to `bacon` is not changed. If we really want to change the value then the corresponding code is shown below.

```
In [3]: bacon = 22
        bacon = bacon + 1
        print(bacon)
```

23

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

`'spam' + 'spamspace'`

`'spam' * 3`

Ans – we will get the same value like as shown below:

```
In [6]: 'spam' + 'spamspace'
```

```
Out[6]: 'spamspace'
```

```
In [7]: 'spam' * 3
```

```
Out[7]: 'spamspace'
```

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

Ans – According to the rule of naming the variable we should not start a variable name with a number. That's why 100 is not a valid variable name. also there are other rules like only underscore ('_') special character can be used.

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

Ans – The corresponding functions are

int(), float(), str()

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

'I have eaten' + 99 + 'burritos'

Ans – This expression will cause a error because we cannot us '+' operator to add 'str' and 'int' data types. We can fix this by enclosing 99 integer with a single or double like as shown below.

```
In [11]: 'I have eaten' + '99' + 'burritos'
```

```
Out[11]: 'I have eaten99burritos'
```