

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

'hello' - Values

-87.8 - Values

- -Expression

/ -Expression

+ -Expression

6 -Values

2. What is the difference between string and variable?

String is used to represent Values.

Variable is used to store data.

3. Describe three different data types.

Integer, Float, True/False.

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

Expression is a representation of combination of values, variables, operators.

Expressions calls to functions, which is to be evaluated by interpreter.

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

Expression contains combination of values, variables, operators and calls to functions.

Statement creates variables.

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

```
bacon = 22
```

```
bacon + 1
```

22

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

'spam' + 'spamspam'

'spam' * 3

'spamspamspam'

'spamspamspam'

```
In [2]: 1 'spam' + 'spamspam'
```

```
Out[2]: 'spamspamspam'
```

```
In [3]: 1 'spam' * 3  
        2
```

```
Out[3]: 'spamspamspam'
```

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

Variable cannot start with numbers or digits. It should start from letters only.

We can write eggs100 as a variable, but not 100eggs.

```
In [4]: 1 eggs100 = "Hello"
```

```
In [5]: 1 eggs100
```

```
Out[5]: 'Hello'
```

```
In [18]: 1 100eggs = "hello"
```

```
File "<ipython-input-18-29569aba7164>", line 1  
    100eggs = "hello"  
      ^
```

```
SyntaxError: invalid syntax
```

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

int()

float()

str() – in case of integer or real or imaginary numbers.

str(" ") – in case of values (ex. Hello, My name is .. , Enter a number etc.)

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

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

This expression will cause error because of combination of string and integer.

Concatenate of string to integer is not possible.

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

```
In [14]: 1 'i have eaten ' + 99 + 'burritos.'
```

```
-----  
TypeError                                Traceback (most recent call last)  
<ipython-input-14-ff27af8db843> in <module>  
----> 1 'i have eaten ' + 99 + 'burritos.'  
  
TypeError: can only concatenate str (not "int") to str
```

```
In [17]: 1 'i have eaten ' + str(99) + ' burritos. '
```

```
Out[17]: 'i have eaten 99 burritos. '
```