

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' : Value

-87.8 : Value

- : Expression

/ : Expression

+ : Expression

6 : Value

2. What is the difference between string and variable?

String is a value (specifically characters or the values that can't be used for mathematical operations). It can be a fix value, independently in the program, or can be assigned to a variable.

Variable is a placeholder in a program, that can contain some static or dynamic values.

3. Describe three different data types.

String: characters or the values that can't be used for mathematical operations). Example: Python2021

Integer: the whole numbers. Example: 10, 300 or 4575498

Float: the fraction numbers i.e. the numbers with decimals. Example: 32.45 , 53.233 or 9.0

Boolean: binary values. Example: True or False

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

Expression: is a combination of values, variables, operators, calls to functions. Expressions need to be evaluated and/or can give some output (a specific or single value as output). Example: print (5+6)

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

An **Expression** is a combination of values and functions that are combined and interpreted by the compiler to create a new value. Whereas a **Statement** is just a standalone unit of execution and doesn't return anything, just an instruction.

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

```
bacon = 22
```

```
bacon + 1
```

22 # (Because the value of variable "bacon" is not changing with 2nd line of code).

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

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

```
'spam' * 3
```

'spamspamspam' # (i.e. for both the terms output will be same).

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

Because a variable name can't start with a number (basic python programming rule).

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.'
```

The error because of the integer 99. And python can't concatenate integer with string.

We can fix it by following way:

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