

1. What are the differences between operators and values in the following?

* - This is used to multiply 2 values . For eg: $x = 2 * 3$ will give output as $x=6$. This is also used as a replication operator. For eg:

`s='Abc'`

`val = s*3`

so output is `val='AbcAbcAbc'`

'hello' - This represents a string .

-87.8 - This represents negative decimal value

- This is a subtraction operator . For eg: $v = 4 - 1$ so output is $v=3$

/ This is a division operator and used as: $v = 4 / 2$. So output is $v=2$

+ This is an addition operator .For eg: $v=4+1$ and output is $v=5$. This can also be used as concatenation for string , list etc. For eg:

`s1 = '123'`

`s2 = 'abc'`

`print(s1+s2)` wil give '123abc' as output

6 This is an integer value datatype

2. What is the difference between string and variable?

spam : This is a variable which is used as a storage ; to store some information

'spam' : String value is a one of the datatypes.

3. Describe three different data forms.

- a) Boolean type: This returns value as True(for true cases) or false(for false cases).For eg: `s []`
`bool(s)` will return False as this is empty list
- b) Integer: The value is in pure int form For eg: `v= 3`
- c) String: Values is in string format . For eg: `s= '123abc'`

4. What makes up an expression? What are the functions of all expressions?

Expression consists of values, variables, some function calls and operators which have to be evaluated to get some desired results.

for eg: `a = 10`

`result = a*10`

Hence result = 100 for above

5. In this chapter, assignment statements such as `spam = 10` were added. What's the difference between a declaration and an expression?

Declaration simply means assigning some value to a variable which has to be used later in the code. Which expression is combination of values,variables, function calls and operators to seek some result.

for eg: `a = 10, b=2` -> This is declaration of a and b variables

`result = a*10/b` -> this is expression to get mathematical results

Hence result = 100 for above

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

`bacon = 22`

`bacon + 1`

bacon contains $22+1 = 23$

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

`'spam' + 'spamspam' -> spamspamspam`

`'spam' * 3 -> spamspamspam`

8. Why is it that eggs is a true variable name but 100 is not?

As per naming convention in python, a variable name can start with any alphabet, _ followed by number. That is it can be eggs, _eggs, eggs123, _eggs123

Hence 100 is not a true valuable name but eggs is.

9. Which of the following three functions may be used to convert a value to an integer, a floating-point number, or a string?

`int(variable)`, `float(variable)`, `str(variable)` can be used to convert into integer, floating or string values respectively.

10. What is the error caused by this expression? What would you do about it?

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

here 99 is an int value which cannot be concatenated with str directly.

So if we represent int value in str format and concatenate, this will fetch us required result:

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

output will be :

```
I have eaten 99 burritos.
```