# Variables

## What is a Variable:-

The name itself tells that it can be changed. We can give any data type as value & assign it to a Variable.

In Python, we need not to declare the data type as it is dynamically typed.

### Example:

a = 10

Here 10 is an integer assigned to variable a.

Likewise we can assign same value to different variables. ------Ex:- a=b=10 (b is also equals to 10)

--🡪x = (10+25-5) ----------------write operation

--🡪print (x)---------------read operation

## What is write operation?

From the above example,

First the statement gets loaded.

* If it is an expression RHS side operation is performed first & gets a value.
* The binary format of that value is created.
* And binary format address would be given to the LHS variable.

## What is read operation?

* Interpreter access the reference address of that variable first.
* Converts the binary into decimal
* Returns the value to the console.

## What are the rules for variables names??

* We shouldn’t use keywords as variable names.
* Python accepts the capital letters as names but It is recommended to use small letters as v names.
* We strictly shouldn’t use integers as v names. EX;- 123 = ‘Shilpa’ X
* We can use the combination of letters & integers but should be started with an undersquare(\_)

Ex:- Variable names as \_123, xyz, \_a12 are acceptable.

## Note:-

We can assign the same value to different variables but we can’t assign different values to the same variable at a time.

If you assign a new value the old value’s reference got deleted (if any other variable is not pointing that particular value.)

## What is reference count ??

Reference is nothing but address of that value.

We can increase the count by assigning the same value to different variables.

We can decrease the count by deleting the reference from some variables pointing to the same value.