

# *Variables - Python*

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*David's*  
*Python*  
*Tutorial*

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# Variables in Python

```
In [1]: num1 = 9  
        num2 = 4  
        result = num1 + num2  
        print("The addition of", num1, "and", num2, "is", result)
```

The addition of 9 and 4 is 13

Variables (num1, num2, result)

Variables are the name or reference of the memory location which stores a value.

In the example,

num1 = 9  
    ↓  
Variable      value

num1 → variable name / reference of the mem. location

475283409 ← which stores the value

Example of RAM  
Mem. address (location)

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Variable names are known as

Identifiers.

→ There are 4 rules for defining an identifier:

1. It should not start with a number

2. It should not contain any special characters (except underscore)   
 ( \_ )

3. It should not contain blank space or white space.

4. It should not be a python keyword.

→ Python Keywords:

False  
None  
True  
and  
as  
assert  
async  
await  
break

class  
continue  
def  
del  
elif  
else  
except  
finally  
for

from  
global  
if  
import  
in  
is  
lambda  
nonlocal  
not

or  
pass  
raise  
return  
try  
while  
with  
yield

→ A variable declaration can be in 3 forms:

Form 1: Assigning value

In [2]: `x = 7` → Assigning a value to the variable.

Here 7 is assigned to x  
↓                      ↓  
value                      variable

In [5]: `print(x)`

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Form 2: Assigning Variable

In [3]: `a = 10`

`b = a` → Assigning another variable to the variable

Here a is assigned to b  
↙  
a is a variable which already holds value 10 → copied to

In [7]: `print(a)`  
`print(b)`

10

10

### Form 3:

### Assigning Expression

In [4]: `res = x + a`

↳ An expression that adds two variable x and a  
The result of x + a is stored in res

In [5]: `print(x)`

7      x is 7

In [7]: `print(a)`  
`print(b)`

a is 10

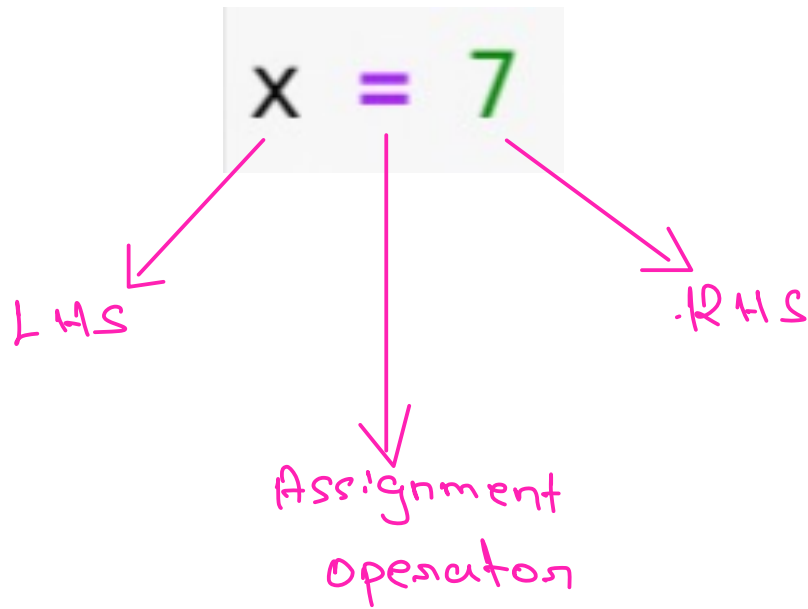
10  
10

In [8]: `print(res)`      x + a

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→ Points to remember while declaring a variable:

1. A variable name should be given only based on the 4 rules.
2. A variable declaration has 3 parts:



The value should be assigned from  
Right  $\rightarrow$  Left

$x = 7$  ✓

$7 = x$  ✗  $\rightarrow$  is not possible

$\rightarrow$  LHS can contain:

1. Variable  $\boxed{7} \leftarrow x = 7$

$\boxed{10} \leftarrow \begin{matrix} a = 10 \\ x = a \end{matrix}$

$\boxed{20} \leftarrow x = a + 10$

$\rightarrow$  RHS can contain:

1. value

2. Variable

3. Expression