

# Variables & Numbers in Python



## Outlines

- Variables
- Rules for python variables
- Numbers
- Quiz 1
- Quiz 2

## Variables

Variables in Python is a reserved memory location to store values. In other words, a variable in a python program gives data to the computer for processing. Every value in Python has a datatype. Different data types in Python are Numbers, List, Tuple, Strings, Dictionary, etc.

In [1]:

```
# assign value to a variable  
a = 20  
b = 10
```

In [2]:

```
c = a + b  
c
```

Out[2]:

30

**Variables are called variable because their value can vary**

In [3]:

```
a = 4  
a
```

Out[3]:

4

**You can put text data into variable**

In [8]:

```
d = 'Python'  
e = 'tutorial'  
print('name of the course is:' , d +' '+ e )
```

name of the course is: Python tutorial

## Rules for Python variables:

1. A variable name must start with a letter or the underscore ( \_ ) character
2. A variable name cannot start with a number.
3. Variable names are case-sensitive (age, Age and AGE are three different variables)
4. Keywords in python cannot use for variable names. Some keywords are: if, for, while, ...

## Numbers

In [9]:

```
# addition  
23 + 45
```

Out[9]:

68

In [10]:

```
# subtraction  
9-8
```

Out[10]:

1

In [16]:

```
# float division  
18/5
```

Out[16]:

3.6

In [17]:

```
# integer division  
18//5
```

Out[17]:

3

In [18]:

```
print(type(18/5),type(18//5))
```

<class 'float'> <class 'int'>

In [12]:

```
# multiplication  
2*6
```

Out[12]:

12

In [15]:

```
# the remainder of the division  
9%7
```

Out[15]:

2

In [19]:

```
# the power of the number  
2**5
```

Out[19]:

32

In [20]:

```
round(2.56)
```

Out[20]:

3

In [21]:

```
# round 3.145689 up to 3 decimal points  
round(3.1456,3)
```

Out[21]:

3.146

## Quiz 1:

What is the result of following expressions?

1.  $10 + 5 * 4$
2.  $(10 + 5) * 4$

[Click here for solution](#)

In [22]:

```
5-4.7
```

Out[22]:

0.2999999999999998

## Quiz 2:

Why the answer is not 0.3?

[Click here for solution](#)

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