

Variables

Data or values can be stored in temporary storage spaces is called variables.
Every variable is associated with data-type

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In [1]: #Rules for variable names

1) variable names can not start with a number
2) Variable names can not contain spaces, we can use _ intead
3) variable names can not contain any of these symbols : ' " , < > / ? | \ ! @ # % ^ & * ~ - +
4) For best practice use variable names are lowercase with underscores
```

Dynamic Typing

Python uses dynamic typing, we can reassign variables to different data types.

```
In [1]: my_cats=2

In [2]: print(my_cats)

2

In [3]: my_cats=["Soni", "Moni"]

In [4]: print(my_cats)

['Soni', 'Moni']

In [5]: #Reassigning variables

In [6]: a=10

In [7]: print(a)

10

In [8]: a=a+10

In [9]: a

Out[9]: 20

In [15]: a=50

In [16]: a+=50

In [17]: print(a)

100

In [18]: a-=50

In [19]: print(a)

50

In [20]: a*=10

In [21]: print(a)

500

In [22]: a/=10

In [23]: print(a)

50.0

In [24]: a//=10

In [25]: print(a)

5.0

In [26]: #Determine variable types

Using built-in type() function we can check what type of object is assigned to a variable

In [27]: type(a)

Out[27]: float

In [29]: a=7
          type(a)

Out[29]: int

In [30]: a=["Pritam"]
          type(a)

Out[30]: list

In [31]: a=True
          type(a)

Out[31]: bool

In [32]: a=3+4j
          type(a)

Out[32]: complex

In [33]: #Simple exercise

In [35]: my_income=30000
          tax_rate=0.1
          my_taxes=(my_income)*(tax_rate)
          print(my_taxes)

3000.0
```