Data types in Python

- Integers
- Float
- Strings
- Bool

Check Data type

Integers

- You can use an integer represent numeric data, and more specifically, whole numbers from negative infinity to infinity, like 4, 5, or -1.

```
a = 2

type(a)

int

print(type(a))

<class 'int'>

type(0)

int
```

Floats

- "Float" stands for 'floating point number'. You can use it for rational numbers, usually ending with a decimal figure, such as 1.11 or 3.14.

```
type(0.0)

float

type(-123435.0)
```

```
float
```

```
type(-1324)
```

```
int
```

Strings

- Strings are collections of alphabets, words or other characters. In Python, you can create strings by enclosing a sequence of characters within a pair of single or double quotes. For example: 'cake', "cookie", etc.

```
type("rahul")
```

```
str
```

```
type("@1324ydikfshlsb")
```

```
str
```

```
type('1324ydikfshlsb')
```

```
str
```

```
type("2")
```

```
str
```

```
type("123.44")
```

```
str
```

```
type('strae43")
```

```
  File
"/var/folders/zn/hkv6562d6_d30glfs8yc76900000gn/T/ipykernel_11060/4142
575034.py", line 1
    type('strae43")
                   ^
SyntaxError: EOL while scanning string literal
```

Boolean

- This built-in data type that can take up the values: True and False, which often makes them interchangeable with the integers 1 and 0. Booleans are useful in conditional and comparison expressions

```
# True, False

type(True)

bool

type(False)

bool

# Learning by doing
```

Type of Data

Variables

It's a type of variable's Rules for naming variables

- Name must start from Alphabet(small or caps) or underscore(_)
- They are case sensitive. It can differentiate between small and CAPS.

```
x = 2
y = 'hello'
print(x)
print(y)
```

```
2
hello
```

```
print(x, y)
```

```
2 hello
```

```
print("Rahul", "Amol", "Akash", "Smit")
```

```
Rahul Amol Akash Smit
```

```
name = "Rahul"
print(Name)
```

```
----------------------------------------------------------------------
-----
NameError                                 Traceback (most recent call
last)
/var/folders/zn/hkv6562d6_d30glfs8yc76900000gn/T/ipykernel_11060/17769
56731.py in <module>
      1 name = "Rahul"
----> 2 print(Name)

NameError: name 'Name' is not defined
```

```
a = 12
b = 34
a = 4
```

```
print(a, b)
```

```
4 34
```

```
x = 3
y = 'hello'
num = y
y = 5
print(num, y)
```

```
hello 5
```

```
baby = "Rahul"
```

```
print(baby)
```

```
Rahul
```

```
baby = "Akash"
```

```
print(baby)
```

```
Akash
```

```
# Variable holds latest value
```

```
a = 34
A = 21
```

```
print(a, A)
```

```
34 21
```

Input function

- It takes input from user i.e us
- Typecasting of input function

```
name = input()
print(name)
```

```
 Vaibhav
```

```
Vaibhav
```

```
print(name)
```

```
Vaibhav
```

```
print("Hello", name)
```

```
Hello Vaibhav
```

```
type(name)
```

```
str
```

```
## Take two user input and add them


x = input()
y = input()
```

```
 3
 5
```

```
print(x)
```

```
3
```

```
type(x)
```

```
str
```

```
add = x + y
```

```
type(add)
```

```
str
```

```
# String concatenation
```

```
print("2" + "2")
```

```
22
```

```
first = "Rahul"
second = "Janghu"
```

```
print(first + second)
```

```
RahulJanghu
```

```
"2" + 2
```

```
----------------------------------------------------------------------
-----
TypeError                                 Traceback (most recent call
last)
/var/folders/zn/hkv6562d6_d30glfs8yc76900000gn/T/ipykernel_11060/20466
39227.py in <module>
----> 1 "2" + 2

TypeError: can only concatenate str (not "int") to str
```

```
# Typecasting
```

```
x = input()
y = input()
```

```
 3
 5
```

```
a = int(x)
b = int(y)
```

```
type(b)
```

```
int
```

```
print(a + b)
```

```
8
```

```
x = int(input())
y = int(input())
```

```
 3
 5
```

```
print(type(x), type(y))
```

```
<class 'int'> <class 'int'>
```