Python Programming

RGM College of Engineering & Technology (Autonomous)

Department of Computer Science & Engineering

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PYTHON LANGUAGE FUNDAMENTALS

Guido Van Rossum

Learning Mantra

If you really strong in the basics, then remaining things will become so easy.

Agenda:

1. Type casting : Introduction and int() function
2. Type casting :float() and complex() functions
3. Type casting :bool() and str() functions

Type casting : Introduction and int() function

Type casting or Type Coersion:

- The process of converting the value from one type to another type is known as **Type casting** or **Type Coersion.**
- Python provides 5 in-built functions, which are used to convert the values from one type to another type. These are listed as below:

1. **int()**
2. **float()**
3. **complex()**
4. **bool()**
5. **str()**

Type casting : Introduction and int() function

1.int() :

We can use this function to convert values from other types to int.

int(10.989) ➔10

int(True) ➔1

int(10+5j) ➔**TypeError:** can't convert complex to int

int(False) ➔0

int('10') ➔10

int("ten") ➔**ValueError:** invalid literal for int() with base 10: 'ten‘

Note:

1. We can convert from any type to int except complex type.

2. If we want to convert str type to int type, compulsory str should contain only integral value and should be specified in base-10.

Type casting :float() and complex() functions

2.float() :

- We can use this function to convert values from other types to float.

float(10) ➔10.0

float(True) ➔1.0

float(10+5j) ➔**TypeError:** can't convert complex to int

floatt(False) ➔0.0

float('10') ➔10.0

float("ten") ➔**ValueError:** invalid literal for int() with base 10: 'ten‘

Note:

1. We can convert any type value to float type except complex type.

2. Whenever we are trying to convert str type to float type compulsory str should be either integral or floating point literal and should be specified only in base-10.

Type casting :float() and complex() functions

3.complex() :

- We can use complex() function to convert other types to complex type.
- There are two forms of complex() function are there.

Form 1 : complex(x)

- We can use this function to convert **x** into complex number with **real part x** and **imaginary part 0.**

complex(10) ➔ (10+0j)

Type casting :float() and complex() functions

Form 2: complex(x , y)

We can use this method to convert **x** and **y** into complex number such that **x** will be real part and **y** will be imaginary part.

complex(10,20) ➔(10+20j)

Note:

Rule 1 is, If you want to pass string in the re al part, then second argument you can't pass.

#Rule 2 is, second argument can't be a string

Type casting :bool() and str() functions

4. bool():

- We can use this function to convert other type values to bool type.
- **If we pass integer arguments:**

bool(10) ➔ True

bool(0) ➔ False

Bool(-37) ➔ True

Type casting :bool() and str() functions

- **If we pass float arguments:**

bool(0.1) ➔ True

bool(0.0) ➔ False

bool(0.0000000000001) ➔ True

bool(-0.00000000000001) ➔ True

Type casting :bool() and str() functions

- **If we pass complex type arguments:**

bool(0+0j) ➔False

bool(0+0.5j) ➔True

bool(1+0j) ➔True

Type casting :bool() and str() functions

- **If we pass string type arguments:**

bool("True") ➔True

bool("False") ➔True

bool("yes") ➔True

bool('no') ➔True

bool(" ") ➔True

bool('') ➔False

Type casting :bool() and str() functions

5. str():

- We can use this method to convert other type values to str type

str(10) ➔'10'

str(0b1111) ➔'15'

str(10.7) ➔'10.7'

str(10+34j) ➔'10+34j'

str(True) ➔'True'

str(False) ➔'False'

str(true) ➔ **NameError:** name 'true' is not defined

Any question?

If you try to practice programs yourself, then you will learn many things automatically

Spend few minutes and then enjoy the study

Thank You