The float () function in Python

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The float () function syntax in Python

```
float([x])
```

Parameters of float () function:

float () has only one parameter:

1. *x* : number or string to be converted into a floating-point number

The function accepts value types that can be parameterized as follows:

1. Number: May be an integer or a decimal.
2. Chain:
    1. Contains any type of number.
    2. The left or right whitespace or a new line of values ??are ignored by the program.
    3. Can use mathematical operators.
    4. Can be used with NaN, Infinity or inf (both lower and upper case).

Value returned from float ()

The values ??returned by the *float ()* function depend on the parameter passed.

1. If the parameters are passed in accordance with Python requirements, the result returned is a corresponding floating point number.
2. If no parameters are passed, the function returns 0.0.
3. If the passed parameter is not a decimal number or does not match any of the cases mentioned above, the program will report an error.
4. If a number is passed outside of the Python float, the output will occur exception *OverflowError* .

Example 1: How does the float () function work?

```
# vi?t b?i TipsMake.com
# ??i v?i s? nguyên
print(float(10))

# ??i v?i s? th?p phân
print(float(11.22))

# ??i v?i chu?i
print(float("-13.33"))

# ??i v?i chu?i có kho?ng tr?ng
print(float(" -24.45n"))

# chu?i gây ra l?i
print(float("abc"))
```

Run the program, the result is:

```
10.0
11.22
-13.33
-24.45
ValueError: could not convert string to float: 'abc'
```

Example 2: float () with infinity and Nan (Not a number)?

```
# vi?t b?i TipsMake.com
# ??i v?i NaN
print(float("nan"))
print(float("NaN"))

# ??i v?i inf/infinity
print(float("inf"))
print(float("InF"))
print(float("InFiNiTy"))
print(float("infinity"))
```

Run the program, the result is:

```
nan
nan
inf
inf
inf
inf
```

The *float ()* function has only a few notes like that. Remember to practice regularly with Python exercises.

Previous lesson: eval () function in Python

Next lesson: exec () function in Python