

Python formatting codes

The on-line python documentation for the complete set of formatting codes can be found at <http://docs.python.org/library/stdtypes.html#string-formatting-operations> and goes further than this quick document. We have tried to select the most useful codes here.

Strings

We consider the string "Hello, world!".

| Formatting code | Hello, world! |
|-----------------|---------------------|
| %s | 'Hello, world' |
| %20s | ' Hello, world!' |
| %-20s | 'Hello, world! ' |
| %3s | 'Hello, world' |

Integers

We consider the integers 12,345 and -12,345.

| Formatting code | 12,345 | -12,345 |
|-----------------|--------------------------|--------------------------|
| %d | '12345' | '-12345' |
| %20d | ' 12345' | ' -12345' |
| %-20d | '12345 ' | '-12345 ' |
| %020d | '000000000000000012345' | '-000000000000000012345' |
| %+d | '+12345' | '-12345' |
| %+20d | ' +12345' | ' -12345' |
| %+-20d | '+12345 ' | '-12345 ' |
| %+020d | '+000000000000000012345' | '-000000000000000012345' |
| %3d | '12345' | '-12345' |

Floating point numbers

We consider the floating point numbers 12.34567 and -12.34.

The %f formatting code presents data in decimal notation. The %e code does it in exponential form.

| Formatting code | 12.34567 | -12.34 |
|-----------------|------------------------|------------------------|
| %f | '12.345670' | '-12.340000' |
| %20f | ' 12.345670' | ' -12.340000' |
| %-20f | '12.345670 ' | '-12.340000 ' |
| %020f | '0000000000012.345670' | '-000000000012.340000' |
| %+f | '+12.345670' | '-12.340000' |
| %+20f | ' +12.345670' | ' -12.340000' |
| %+-20f | '+12.345670 ' | '-12.340000 ' |
| %+020f | '+000000000012.345670' | '-000000000012.340000' |
| %.4f | '12.3457' | '-12.3400' |
| %20.4f | ' 12.3457' | ' -12.3400' |
| %-20.4f | '12.3457 ' | '-12.3400 ' |
| %020.4f | '00000000000012.3457' | '-0000000000012.3400' |
| %+.4f | '+12.3457' | '-12.3400' |
| %+20.4f | ' +12.3457' | ' -12.3400' |
| %+-20.4f | '+12.3457 ' | '-12.3400 ' |
| %+020.4f | '+0000000000012.3457' | '-0000000000012.3400' |

| Formatting code | 12.34567 | -12.34 |
|-----------------|-----------------------|-----------------------|
| %e | '1.234567e+01' | '-1.234000e+01' |
| %20e | ' 1.234567e+01' | ' -1.234000e+01' |
| %-20e | '1.234567e+01 ' | '-1.234000e+01 ' |
| %020e | '00000001.234567e+01' | '-0000001.234000e+01' |
| %+e | '+1.234567e+01' | '-1.234000e+01' |
| %+20e | ' +1.234567e+01' | ' -1.234000e+01' |
| %+-20e | '+1.234567e+01 ' | '-1.234000e+01 ' |
| %+020e | '+0000001.234567e+01' | '-0000001.234000e+01' |
| %.4e | '1.2346e+01' | '-1.2340e+01' |
| %20.4e | ' 1.2346e+01' | ' -1.2340e+01' |
| %-20.4e | '1.2346e+01 ' | '-1.2340e+01 ' |
| %020.4e | '0000000001.2346e+01' | '-000000001.2340e+01' |
| %+.4e | '+1.2346e+01' | '-1.2340e+01' |
| %+20.4e | ' +1.2346e+01' | ' -1.2340e+01' |
| %+-20.4e | '+1.2346e+01 ' | '-1.2340e+01 ' |
| %+020.4e | '+000000001.2346e+01' | '-000000001.2340e+01' |

Formatting graphs

Some people find flow charts easy to read. If you are one of these people you may find the following two graphs an aid to understanding formatting. If you're not; don't worry about it.

In both charts, N is the number of characters assigned to the formatted representation of the number. In the floating point chart, M is the number of decimal places.

