

# Displaying long expressions

This example uses a simple (though contrived) example of a Taylor series expansion of  $1/(1+x)$  to demonstrate the problems that can arise when displaying very long expressions.

```
from sympy import *
x = Symbol('x')
ans = 1/(1+x)           # py (ans.511,ans)
taylor = ans.series(x, 0, 10) # py (ans.512,taylor)
taylor = ans.series(x, 0, 20) # py (ans.513,taylor)
taylor = ans.series(x, 0, 23) # py (ans.514,taylor)
```

```
\begin{dgroup*}[spread={5pt}]
\begin{dmath*} f(x) = \Py*{ans.511} \end{dmath*}
\begin{dmath*} {}= \Py*{ans.512} \end{dmath*}
\begin{dmath*} {}= \Py*{ans.513} \end{dmath*}
\begin{dmath*} {}= \Py*{ans.514} \end{dmath*}
\begin{dmath*} {}= \Py*[\hskip 2cm]{ans.514} \end{dmath*}
\end{dgroup*}
```

The first four lines of the following output were set using `\Py*` while the final line used `\Py*[\hskip=2cm]`. The last pair of lines displays the output for the same tag `ans.514` and clearly the formatting of the second last line is not ideal as the text has overlapped the tag. This was corrected in the final line by using the optional argument `[\hskip=2cm]` in the call to `\Py*`.

$$f(x) = \frac{1}{x+1} \tag{ans.511}$$

$$= 1 - x + x^2 - x^3 + x^4 - x^5 + x^6 - x^7 + x^8 - x^9 + O(x^{10}) \tag{ans.512}$$

$$= 1 - x + x^2 - x^3 + x^4 - x^5 + x^6 - x^7 + x^8 - x^9 + x^{10} - x^{11} + x^{12} - x^{13} + x^{14} - x^{15} + x^{16} - x^{17} + x^{18} - x^{19} + O(x^{20}) \tag{ans.513}$$

$$= 1 - x + x^2 - x^3 + x^4 - x^5 + x^6 - x^7 + x^8 - x^9 + x^{10} - x^{11} + x^{12} - x^{13} + x^{14} - x^{15} + x^{16} - x^{17} + x^{18} - x^{19} + x^{20} - x^{21} + x^{22} + O(x^{23}) \tag{ans.514}$$

$$= 1 - x + x^2 - x^3 + x^4 - x^5 + x^6 - x^7 + x^8 - x^9 + x^{10} - x^{11} + x^{12} - x^{13} + x^{14} - x^{15} + x^{16} - x^{17} + x^{18} - x^{19} + x^{20} - x^{21} + x^{22} + O(x^{23}) \tag{ans.514}$$