

Power series functions	
Function signature	Description
<code>serie_const_function(x,a)</code>	It represents the function $a \cdot \delta(x)$: 0 if $x \neq 0$ and a if $x = 0$
<code>serie_from_list(x,a)</code>	It represents a set of deltas. if returns 0 if x not in $\text{range}(\text{len}(a))$ and it returns $a[x]$ if x in $\text{range}(\text{len}(a))$
<code>series_inverse_polynomial(f)</code>	Given a polynomial f , it return the power series g such that $f \cdot g = 1$
<code>truncate_series(f,n)</code>	Given a power series f , it returns the polynomial g that it is the truncated version of f until degree n .
<code>power_series(a,var='x',P=0,NT=5)</code>	If a is a element, it transform it to a power_series centered in P with coefficient 0 at degrees out of the scope of a. If a is a lambda function, it returns a power series that its coeffient follow the lambda function a. Exemple: $a = 3 \rightarrow \text{power_series}(a) = 3 + 0 \cdot x + 0 \cdot x^{**2} + \dots + 0 \cdot x^{**n} + O(x^{**n+1})$ (all coefficients of the power series are 0 except for the constant coefficient) $a = x + 4 \cdot x^{**2} + x^{**3} \rightarrow \text{power_series}(a,y) = y + 4 \cdot y^{**2} + y^{**3} + 0 \cdot x^{**4} + \dots + 0 \cdot x^{**n} + O(x^{**n+1})$ (all the coefficients of the power series are zero except for the coefficients until degree 3) $a = \text{lambda } x:x \rightarrow \text{power_series}(a) = 0 + x + 2 \cdot x^{**2} + 3 \cdot x^{**3} + O(x^{**4})$ $a = \text{lambda } x:x \rightarrow \text{power_series}(a,'x',1) = x - 1 + 2 \cdot (x - 1)^{**2} + 3 \cdot (x - 1)^{**3} + O((x - 1)^{**4})$