Example 4 Python functions

```
{a,b,c,d,e,f,h,i,j,k,l,m,n,o,p,q,r,s,t,u\#}::Indices.
     def truncate (poly,n):
         # define the weight and give it a label
         x^{a}::Weight(label=\epsilon).
         # start with an empty espression
         ans = Ex("0")
10
         # loop over selected terms in the source
11
         for i in range (0,n+1):
12
13
            foo := Q(poly).
            bah = Ex("\ensuremath{\mathsf{epsilon}} = " + str(i))
15
16
            # extract a single term
17
            keep_weight (foo, bah)
18
19
            # update the running sum
            ans = ans + foo
21
22
         # all done, return final answer
23
         return ans
24
25
     Quartic := c^{a}
26
              + c^{a}_{b} x^b
27
              + c^{a}_{b} c x^b x^c
28
              + c^{a}_{b} c d x^b x^c x^d
29
              + c^{a}_{b c d e} x^b x^c x^d x^e. # cdb (ex-04.100, Quartic)
30
31
     Cubic = truncate (Quartic,3)
                                                      # cdb (ex-04.101, Cubic)
32
33
     checkpoint.append (Cubic)
```

$$p(x) = c^{a} + c^{a}_{b}x^{b} + c^{a}_{bc}x^{b}x^{c} + c^{a}_{bcd}x^{b}x^{c}x^{d} + c^{a}_{bcde}x^{b}x^{c}x^{d}x^{e}$$

$$q(x) = c^{a} + c^{a}_{b}x^{b} + c^{a}_{bc}x^{b}x^{c} + c^{a}_{bcd}x^{b}x^{c}x^{d}$$

$$(ex-04.101)$$