Example 4 Python functions

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{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")

    # loop over selected terms in the source
    for i in range (0,n+1):

       foo := @(poly).
       bah  = Ex("\epsilon = " + str(i))

       # extract a single term
       keep_weight (foo, bah)

       # update the running sum
       ans = ans + foo

    # all done, return final answer
    return ans

Quartic := c^{a}
         + c^{a}_{b} x^b
         + c^{a}_{b c} x^b x^c
         + c^{a}_{b c d} x^b x^c x^d
         + c^{a}_{b c d e} x^b x^c x^d x^e.   # cdb (ex-04.100,Quartic)

Cubic = truncate (Quartic,3)                  # cdb (ex-04.101,Cubic)

checkpoint.append (Cubic)
```

$$p(x) = c^a + c^a{}_b x^b + c^a{}_{bc} x^b x^c + c^a{}_{bcd} x^b x^c x^d + c^a{}_{bcde} x^b x^c x^d x^e \tag{ex-04.100}$$

$$q(x) = c^a + c^a{}_b x^b + c^a{}_{bc} x^b x^c + c^a{}_{bcd} x^b x^c x^d \tag{ex-04.101}$$