## Exercise 5.4 Deleting a term using tags

```
\{a,b,c,d,e,f,g,h,i,j,k,l,m,n,o,p,q,r,s,t,u\#\}::Indices(position=independent).
     def add_tags (obj,tag):
        n = 0
        ans = Ex('0')
        for i in obj.top().terms():
          foo = obj[i]
          bah = Ex(tag+'_{(n)+'})
          ans := @(ans) + @(bah) @(foo).
           n = n + 1
10
        return ans
11
12
     def clear_tags (obj,tag):
13
        ans := @(obj).
14
        foo = Ex(tag+'_{a?} -> 1')
15
        substitute (ans,foo)
16
        return ans
17
18
     expr := A_{a b} B^{a b} + A_{a b} A_{c d} B^{a b} B^{c d} - C_{a b} B^{a b}. # cdb (ex-0504.100, expr)
     expr = add_tags (expr,'\\mu')
                                                                                     # cdb (ex-0504.101,expr)
21
22
     substitute (expr, $\mu_{1} -> 0$)
                                                                                     # cdb (ex-0504.102,expr)
23
     expr = clear_tags (expr,'\\mu')
                                                                                     # cdb (ex-0504.103,expr)
```

$$\begin{split} & \text{ex-0504.100} := A_{ab}B^{ab} + A_{ab}A_{cd}B^{ab}B^{cd} - C_{ab}B^{ab} \\ & \text{ex-0504.101} := \mu_0 A_{ab}B^{ab} + \mu_1 A_{ab}A_{cd}B^{ab}B^{cd} - \mu_2 C_{ab}B^{ab} \\ & \text{ex-0504.102} := \mu_0 A_{ab}B^{ab} - \mu_2 C_{ab}B^{ab} \\ & \text{ex-0504.103} := A_{ab}B^{ab} - C_{ab}B^{ab} \end{split}$$