

Exercise 1.8 Syntax errors – original code

```
1 {a,b,c,d,e,f#}::Indices.
2 C{#}::Symmetric.
3
4 foo := A_{a} B_{b} + C_{ab}.           # C_{ab} should be C_{a b}
5 bah := B_{b} A_{a} + C_{ba}.           # C_{ba} should be C_{b a}
6 meh := @(foo) - @(bah)                 # missing dot or semi-colon terminator
7
8 if meh == 0:
9     print ("meh is zero, and all is good")
10     success = True.                   # indentation error, drop the dot
11 else:
12     print ("meh is not zero, oops")
13     success = False.                 # indentation error, drop the dot
14
15 canonicalise (meh).                  # terminate with ; or nothing
16 sort_product (meh);
17
18 {\alpha\beta\gamma}::Indices.         # separate list elements with commas
19
20 foo := Ex ("A_{ab} - A_{a b}");       # use = for assignment, A_{ab} should be A_{a b}
21 bah := Ex ("A_{\alpha\beta} - A_{\alpha \beta}"); # use = for assignment, need raw string in Ex
```

Exercise 1.8 Syntax errors – corrected code

```

1  {a,b,c,d,e,f#}::Indices.
2  C{#}::Symmetric.
3
4  foo := A_{a} B_{b} + C_{a b}.          # cdb (ex-0108.101,foo)
5  bah := B_{b} A_{a} + C_{b a}.          # cdb (ex-0108.102,bah)
6  meh := @(foo) - @(bah).                # cdb (ex-0108.103,meh)
7
8  if meh == 0:
9      print ("meh is zero, and all is good")
10     success = True
11 else:
12     print ("meh is not zero, oops")
13     success = False
14
15 canonicalise (meh)                      # cdb (ex-0108.104,meh)
16 sort_product (meh);                     # cdb (ex-0108.105,meh)
17
18 {\alpha,\beta,\gamma}::Indices.
19
20 foo = Ex ("A_{a b} - A_{a b}");          # cdb (ex-0108.106,foo)
21 bah = Ex (r"A_{\alpha\beta} - A_{\alpha \beta}"); # cdb (ex-0108.107,bah)

```

$$\begin{aligned}
 \text{ex-0108.101} &:= A_a B_b + C_{ab} \\
 \text{ex-0108.102} &:= B_b A_a + C_{ba} \\
 \text{ex-0108.103} &:= A_a B_b + C_{ab} - B_b A_a - C_{ba} \\
 \text{ex-0108.104} &:= A_a B_b - B_b A_a \\
 \text{ex-0108.105} &:= 0 \\
 \text{ex-0108.106} &:= 0 \\
 \text{ex-0108.107} &:= 0
 \end{aligned}$$