

Example — Insufficient equations

```
fleck@tornado [110]% cat group.mod
module! GROUP {
  extending(BARE-NAT)
  op -_ : Nat -> Nat
  op _+_ : Nat Nat -> Nat

  vars X Y Z : Nat

  -- terminating but not confluent
  eq 0 + X = X .
  eq (- X) + X = 0 .
  eq (X + Y) + Z = X + ( Y + Z) .
}
fleck@tornado [109]% cafeobj
-- CafeOBJ system Version 1.4.2 --
CafeOBJ> in simple-nat
processing input : ./simple-nat.mod
-- defining module! BARE-NAT..._* done.
-- defining module! SIMPLE-NAT..._* done.
-- defining module! TIMES-NAT..._* done.
CafeOBJ> in group
processing input : ./group.mod
-- defining module! GROUP...._* done.
CafeOBJ> select GROUP
GROUP> red (s 0) + 0 .
-- reduce in GROUP : s 0 + 0
s 0 + 0 : Nat
(0.000 sec for parse, 0 rewrites(0.030 sec), 6 matches)
GROUP> red (- 0) + 0 .
-- reduce in GROUP : - 0 + 0
0 : Zero
(0.000 sec for parse, 1 rewrites(0.000 sec), 2 matches)
GROUP> red (- 0) == 0 .
```

```
-- reduce in GROUP : - 0 == 0
false : Bool
(0.000 sec for parse, 1 rewrites(0.000 sec), 1 matches)
GROUP> red (0 + (- 0)) + 0 .
-- reduce in GROUP : (0 + - 0) + 0
0 : Zero
(0.010 sec for parse, 2 rewrites(0.000 sec), 3 matches)
GROUP> red - (- 0) .
-- reduce in GROUP : - (- 0)
- (- 0) : Nat
(0.000 sec for parse, 0 rewrites(0.000 sec), 0 matches)
GROUP> red ((- (- (- 0))) + (- (- 0))) + (- 0) .
-- reduce in GROUP : (- (- (- 0)) + - (- 0)) + - 0
- 0 : Nat
(0.010 sec for parse, 2 rewrites(0.000 sec), 3 matches)
GROUP> q
[Leaving CafeOBJ]
```