

Synthesized solution for benchmark 03buffer.c

```

solution
├─ (Partial), cond  $a_6$ : brk < 1
│   └─ {
│       └─  $Case_{a_6}$ :
│            $k_1 = M_{31} \cdot Y_{16} \cdot C_{15} \cdot K_{14} \cdot (a_6 \cdot G_{13} \cdot (c_{12} \cdot B_7 + \neg c_{12} \cdot (b_{11} \cdot B_8 + \neg b_{11} \cdot W_{33} \cdot O_{34}))) * \neg a_6$ 
│            $k_2 = N_{32} \cdot L_{28} \cdot C_{27} \cdot K_{26} \cdot (a_{19} \cdot G_{25} \cdot (c_{24} \cdot B_{20} + \neg c_{24} \cdot (b_{23} \cdot B_{21} + \neg b_{23} \cdot B_{22}))) * \neg a_{19}$ 
│       └─ AComplete
│           └─ {
│               └─  $Axioms$ :  $\{M = 1, N = 1, Y = L, W = 1, O = 1, P = 1\}$ 
│                $k_1 = M_{31} \cdot Y_{16} \cdot C_{15} \cdot K_{14} \cdot (a_6 \cdot G_{13} \cdot (c_{12} \cdot B_7 + \neg c_{12} \cdot (b_{11} \cdot B_8 + \neg b_{11} \cdot W_{33} \cdot O_{34}))) * \neg a_6$ 
│                $k_2 = N_{32} \cdot L_{28} \cdot C_{27} \cdot K_{26} \cdot (a_{19} \cdot G_{25} \cdot (c_{24} \cdot B_{20} + \neg c_{24} \cdot (b_{23} \cdot B_{21} + \neg b_{23} \cdot P_{35}))) * \neg a_{19}$ 
│           }
│       └─ {
│           └─  $Case_{\neg a_6}$ :
│                $k_1 = M_{31} \cdot Y_{16} \cdot C_{15} \cdot K_{14} \cdot (a_6 \cdot G_{13} \cdot (c_{12} \cdot B_7 + \neg c_{12} \cdot (b_{11} \cdot B_8 + \neg b_{11} \cdot W_{33} \cdot O_{34}))) * \neg a_6$ 
│                $k_2 = N_{32} \cdot L_{28} \cdot C_{27} \cdot K_{26} \cdot (a_{19} \cdot G_{25} \cdot (c_{24} \cdot B_{20} + \neg c_{24} \cdot (b_{23} \cdot B_{21} + \neg b_{23} \cdot B_{22}))) * \neg a_{19}$ 
│           }
│       └─ (Partial), cond  $a_{19}$ : brk < 1
│           └─ {
│               └─  $Case_{\neg a_{19}}$ :
│                    $k_1 = M_{31} \cdot Y_{16} \cdot C_{15} \cdot K_{14} \cdot 0 \cdot 0$ 
│                    $k_2 = N_{32} \cdot L_{28} \cdot C_{27} \cdot K_{26} \cdot (a_{19} \cdot G_{25} \cdot (c_{24} \cdot B_{20} + \neg c_{24} \cdot (b_{23} \cdot B_{21} + \neg b_{23} \cdot B_{22}))) * \neg a_{19}$ 
│               └─ AComplete
│                   └─ {
│                       └─  $Axioms$ :  $\{M = 1, N = 1, Y = L, W = 1, O = 1\}$ 
│                        $k_1 = M_{31} \cdot Y_{16} \cdot C_{15} \cdot K_{14} \cdot 0 \cdot 0$ 
│                        $k_2 = N_{32} \cdot L_{28} \cdot C_{27} \cdot K_{26} \cdot 0 \cdot 0$ 
│                   }
│           }
│   }

```

Remaining 190 solutions omitted for brevity.