

# Synthesized solution for benchmark 01loopprint.c

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solution
└─ (Complete), cond  $c_{17}$ :  $a > 5$ 
   └─  $\left\{ \begin{array}{l} \text{Case } c_{17} : \\ k_1 = ((a_i \leq 4 \vee b_j \leq 3) \cdot P() = \text{printf}(i, j); \cdot I_i = i + i, ? \quad 1; \cdot J_j = j + i, ? \quad 1;) * (\neg a_i \leq 4 \wedge \neg b_j \leq 3) \\ k_2 = ((a_i \leq 4 \vee b_j \leq 3) \cdot D_a = i + i, ? \quad j; \cdot P() = \text{printf}(i, j); \cdot I_i = i + i, ? \quad 1; \cdot J_j = j + i, ? \quad 1; \cdot (c_a > 5 \cdot V_{fv.1} = 0; \cdot T() = \text{printf}(a, fv.1); + \neg c_a > 5 \cdot 1)) * (\neg a_i \leq 4 \wedge \neg b_j \leq 3) \end{array} \right.$ 
      └─ AComplete
         └─  $\left\{ \begin{array}{l} \text{Axioms} : \{D = 1, E = 1, G = 1\} \\ k_1 = ((a_i \leq 4 \vee b_j \leq 3) \cdot P() = \text{printf}(i, j); \cdot I_i = i + i, ? \quad 1; \cdot J_j = j + i, ? \quad 1;) * (\neg a_i \leq 4 \wedge \neg b_j \leq 3) \\ k_2 = ((a_i \leq 4 \vee b_j \leq 3) \cdot D_a = i + i, ? \quad j; \cdot P() = \text{printf}(i, j); \cdot I_i = i + i, ? \quad 1; \cdot J_j = j + i, ? \quad 1; \cdot 1 \cdot E_{fv.1} = 0; \cdot G() = \text{printf}(a, fv.1);) * (\neg a_i \leq 4 \wedge \neg b_j \leq 3) \end{array} \right.$ 
      └─  $\left\{ \begin{array}{l} \text{Case } \neg c_{17} : \\ k_1 = ((a_i \leq 4 \vee b_j \leq 3) \cdot P() = \text{printf}(i, j); \cdot I_i = i + i, ? \quad 1; \cdot J_j = j + i, ? \quad 1;) * (\neg a_i \leq 4 \wedge \neg b_j \leq 3) \\ k_2 = ((a_i \leq 4 \vee b_j \leq 3) \cdot D_a = i + i, ? \quad j; \cdot P() = \text{printf}(i, j); \cdot I_i = i + i, ? \quad 1; \cdot J_j = j + i, ? \quad 1; \cdot (c_a > 5 \cdot V_{fv.1} = 0; \cdot T() = \text{printf}(a, fv.1); + \neg c_a > 5 \cdot 1)) * (\neg a_i \leq 4 \wedge \neg b_j \leq 3) \end{array} \right.$ 
         └─ AComplete
            └─  $\left\{ \begin{array}{l} \text{Axioms} : \{D = 1\} \\ k_1 = ((a_i \leq 4 \vee b_j \leq 3) \cdot P() = \text{printf}(i, j); \cdot I_i = i + i, ? \quad 1; \cdot J_j = j + i, ? \quad 1;) * (\neg a_i \leq 4 \wedge \neg b_j \leq 3) \\ k_2 = ((a_i \leq 4 \vee b_j \leq 3) \cdot D_a = i + i, ? \quad j; \cdot P() = \text{printf}(i, j); \cdot I_i = i + i, ? \quad 1; \cdot J_j = j + i, ? \quad 1; \cdot 1 \cdot 1) * (\neg a_i \leq 4 \wedge \neg b_j \leq 3) \end{array} \right.$ 

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Remaining 10 solutions ommitted for brevity.