



| node | Rule  | constraints                       | node | Rule  | constraints                          | Types   |
|------|-------|-----------------------------------|------|-------|--------------------------------------|---|
| 1    | let f | $t_1 = t_{10}$                    | 15   | Int   | $t_{15} = Int$                       | $t_f = (bool \rightarrow bool) \rightarrow ((int \rightarrow bool) \rightarrow (int \rightarrow bool))$ |
| 1    | let f | $t_f = t_2$                       | 16   | Var   | $t_{16} = t_a$                       | $(int \rightarrow bool)$  |
| 2    | fun g | $t_2 = t_g \rightarrow t_3$       | 17   | Var   | $t_{17} = t_b$                       | $t_g = bool \rightarrow bool$   |
| 3    | fun h | $t_3 = t_h \rightarrow t_4$       | 18   | let s | $t_s = t_{19}$                       | $t_h = int \rightarrow bool$  |
| 4    | fun x | $t_4 = t_x \rightarrow t_5$       | 19   | if    | $t_{19} = t_{27}$                    | $t_x = int$   |
| 5    | Appl  | $t_6 = t_7 \rightarrow t_5$       | 19   | if    | $t_{19} = t_{30}$                    | $t_q = int \rightarrow bool$  |
| 6    | Var   | $t_6 = t_g$                       | 19   | if    | $t_{27} = t_{30}$                    | $t_y = int$   |
| 7    | Appl  | $t_8 = t_9 \rightarrow t_7$       | 19   | if    | $t_{20} = bool$                      | $t_a = bool$  |
| 8    | var   | $t_8 = t_h$                       | 20   | Appl  | $t_{21} = t_{26} \rightarrow t_{20}$ | $t_b = bool$  |
| 9    | var   | $t_9 = t_x$                       | 21   | Appl  | $t_{22} = t_{25} \rightarrow t_{21}$ | $t_r = int$   |
| 10   | let q | $t_{10} = t_{18}$                 | 22   | Appl  | $t_{23} = t_{24} \rightarrow t_{22}$ | $t_w = t_x = int$   |
| 10   | let q | $t_q = t_{11}$                    | 23   | Var   | $t_{23} = t_f$                       | $t_s = bool$  |
| 11   | fun y | $t_{11} = t_y \rightarrow t_{12}$ | 24   | Var   | $t_{24} = t_p$                       | $t_p = t_g = bool \rightarrow bool$   |
| 12   | if    | $t_{12} = t_{16}$                 | 25   | Var   | $t_{25} = t_q$                       |   |
| 12   | if    | $t_{12} = t_{17}$                 | 26   | Var   | $t_{26} = t_w$                       |   |
| 12   | if    | $t_{16} = t_{17}$                 | 27   | <=    | $t_{27} = bool$                      |   |
| 13   | <=    | $t_{13} = bool$                   | 27   | <=    | $t_{28} = Int$                       |   |
| 13   | <=    | $t_{14} = t_{15}$                 | 27   | <=    | $t_{29} = Int$                       |   |
| 13   | <=    | $t_{14} = Int$                    | 28   | Var   | $t_{28} = t_r$                       |   |
| 13   | <=    | $t_{15} = Int$                    | 29   | Int   | $t_{29} = Int$                       |   |
| 14   | Var   | $t_{14} = t_y$                    | 30   | Var   | $t_{30} = t_b$                       |   |