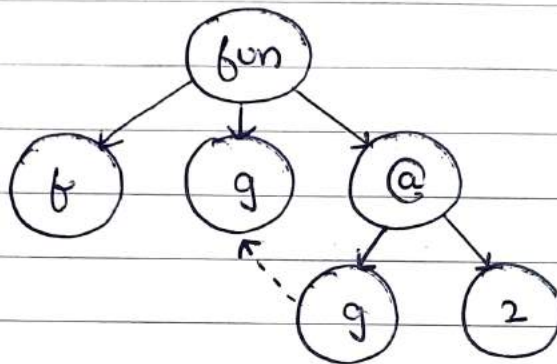


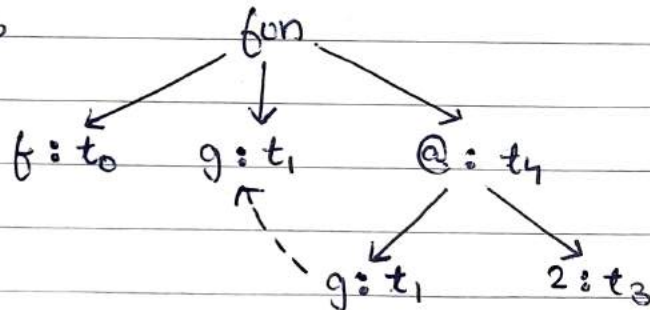
INFERRING POLYMORPHIC TYPES.

ex let $f\ g = g\ 2$ val $f: (int \rightarrow t_4) \rightarrow t_4 = \langle fun \rangle$

- ① build parse tree



- ② assign type variables



- ③ generate constraints

$$t_3 = int$$

$$t_1 = t_3 \rightarrow t_4$$

$$t_0 = t_1 \rightarrow t_4$$

- ④ solve constraints

$$t_1 = int \rightarrow t_4$$

$$t_0 = (int \rightarrow t_4) \rightarrow t_4$$

unconstrained type variables
become polymorphic types.

USING POLYMORPHIC FUNCTIONS.

function:

let $f\ g = g\ 2$ val $f: (int \rightarrow t_4) \rightarrow t_4 = \langle fun \rangle$.

possible applications:

① let add $x = 2 + x$ val add: $int \rightarrow int = \langle fun \rangle$ f add :- int = 4② let isEven $x = \text{mod}(x, 2) == 0$ val isEven: $int \rightarrow bool = \langle fun \rangle$ f isEven :- bool = true