Operazioni 2 operandi

$$\frac{\Gamma \vdash e_1 : T_1 \quad \Gamma \vdash e_2 : T_2 \quad optype(op_2, T_1, T_2) = T}{\Gamma \vdash (e_1\ op_1\ e_2) : T}$$

Operazioni 1 operando

$$\frac{\Gamma \vdash e_1 : T_1 \quad optype(op_1, T_1) : T}{\Gamma \vdash (op_1\ e_1) : T}$$

AssignamentOp

$$\frac{(x_i : T) \in \Gamma \quad \Gamma \vdash e_j : T \quad i = 1, \dots, n \quad j = 1, \dots, m}{\Gamma \vdash x_i = e_j \quad i = 1, \dots, n \quad j = 1, \dots, m}$$

If OP

$$\frac{\Gamma \vdash e : bool \quad \Gamma \vdash stmt \quad \Gamma \vdash elif \quad \Gamma \vdash else}{\Gamma \vdash \text{if } e \text{ then } stmt \text{ } elif \text{ } else \text{ } fi}$$

$$\frac{\Gamma \vdash e : bool \quad \Gamma \vdash stmt \quad \Gamma \vdash elif}{\Gamma \vdash \text{if } e \text{ then } stmt \text{ } elif \text{ } fi}$$

$$\frac{\Gamma \vdash e : bool \quad \Gamma \vdash stmt \quad \Gamma \vdash else}{\Gamma \vdash \text{if } e \text{ then } stmt \text{ } else \text{ } fi}$$

$$\frac{\Gamma \vdash e : bool \quad \Gamma \vdash stmt}{\Gamma \vdash \text{if } e \text{ then } stmt \text{ } fi}$$

ElifOP

$$\frac{\Gamma \vdash e : bool \quad \Gamma \vdash stmt}{\Gamma \vdash elif\ e\ then\ stmt}$$

ElseOP

$$\frac{\Gamma \vdash stmt}{\Gamma \vdash else\ stmt}$$

while OP versione 1

$$\frac{\Gamma \vdash e : bool \quad \Gamma \vdash stmt1 \quad \Gamma \vdash stmt2}{\Gamma \vdash while\ stmt1 \rightarrow e\ do\ stmt2\ od}$$

while OP versione 2

$$\frac{\Gamma \vdash e : bool \quad \Gamma \vdash stmt}{\Gamma \vdash while\ e\ do\ stmt\ od}$$

Callproc OP vers 1

$$\frac{\Gamma \vdash f : T_i \rightarrow T_j \quad i=0,\dots,n \quad j=1,\dots,m \quad \Gamma \vdash e_i : T_i \quad i=0,\dots,n}{\Gamma \vdash f(e_i) : T_j \quad i=0,\dots,n \quad j=1,\dots,m}$$

Callproc OP valore restituito nullo

$$\frac{\Gamma \vdash f : T_i \rightarrow \quad i=0,\dots,n \quad \Gamma \vdash e_i : T_i \quad i=0,\dots,n}{\Gamma \vdash f(e_i) \quad i=0,\dots,n}$$

Proc id : id LPAR Parameterlist : pl RPAR ResultTypelist : rtl COLON variablelist : vdl statlist : sl Return Returntype : rt CORP SEMI

Proc OP

$$\frac{\Gamma \vdash f : T_i \rightarrow T_j \quad (p_i : t_i) \in \Gamma' \quad (x_k : t_k) \in \Gamma' \quad \Gamma' \vdash stmt \quad \Gamma' \vdash re_j : T_j \quad j=1,\dots,m \quad k=0,\dots,m}{\Gamma \vdash proc\ f(p_i) : T_j : x_k\ stmt \rightarrow re_j\ corp \quad i=0,\dots,m \quad j=1,\dots,m \quad k=0,\dots,m}$$

$$\frac{\Gamma \vdash f : T_i \rightarrow T_j \quad (p_i : t_i) \in \Gamma' \quad (x_k : t_k) \in \Gamma' \quad \Gamma' \vdash re_j : T_j \quad j=1,\dots,m}{\Gamma \vdash proc\ f(p_i) : T_j : x_k \rightarrow re_j\ corp \quad i=0,\dots,m \quad j=1,\dots,m}$$

$$\frac{\Gamma \vdash f \rightarrow T_j \quad (x_k : t_k) \in \Gamma' \quad \Gamma' \vdash stmt \quad \Gamma' \vdash re_j : T_j \quad j=0,\dots,m}{\Gamma \vdash proc\ f() : T_j : x_k\ stmt \rightarrow re_j\ corp \quad i=0,\dots,m}$$

$$\frac{\Gamma \vdash f \rightarrow T_j \quad (x_k : t_k) \in \Gamma' \quad \Gamma' \vdash re_j : T_j \quad j=0,\dots,m}{\Gamma \vdash proc\ f() : T_j : x_k \rightarrow re_j\ corp \quad i=0,\dots,m}$$

* Readln OP

$$\frac{\Gamma \vdash id_i : \tau \quad i = 1, \ldots, n}{\Gamma \vdash read(id_i) \; i = 1, \ldots, n}$$

* Write OP

$$\frac{\Gamma \vdash e_i : \tau \quad i = 1, \ldots, n}{\Gamma \vdash write(e_i) \; i = 1, \ldots, n}$$

* var

$$\frac{(x : \tau) \in \Gamma}{\Gamma \vdash x : \tau}$$