

```

(define-syntax define-poly
  (syntax-rules ()
    [(_ (name tyvar) body)
     (define-syntax (name stx)
       (syntax-case stx ()
         [(_ type)
          (with-syntax ([tyvar #'type])
            #'body)]))]))

```

$(d-p \text{ (filter } t)$

$(\text{letrec } (\lambda f (\lambda (p l)$
 \vdots
 $)))$

$(d-p \text{ (id } t)$

$(\lambda ([x : t]) : t \ x)$

$\rightarrow (cl-s \text{ id } \dots)$

$(d \text{ id@str (id string)})$

$\rightarrow (\lambda ([x : string]) : string \ x)$

$(d \text{ id@n (id number)})$

$\rightarrow (\lambda ([x : number]) : number \ x)$

$(\text{id @ str "x"}) \rightarrow \text{"x"}$

$\forall a, b. (a \rightarrow b) \text{ (listof 'a)} \rightarrow \text{(listof 'b)}$

$\text{map_n-s} \text{ (num} \rightarrow \text{str)} \text{ (listof num)} \rightarrow \text{(listof str)}$

RANK-1

PARAMETRIC POLYMORPHISM

$T = \text{num | str | bool | (T} \rightarrow \text{T) | Tvar } \left. \begin{array}{l} \text{'a} \\ \text{'b} \\ \text{'c} \end{array} \right\} \text{monotypes}$

$P = \forall \text{Tvar} \dots . T \quad \left. \right\} \text{polytypes}$

$\lambda \text{Tvar} \dots . T$

class <T> {

T foo (T i) { ... }

RELATIONAL
PARAMETRICITY

<String>

∀ 'a ('a → boolean) (listof 'a) → (listof 'a)

(define-poly ('a)

(filter [f : ('a → boolean)]

[l : (listof 'a)]): (listof 'a)

(d-s make-poly
(syntax-rules ()
 [(make-poly (name type)
 id filter
 'd