Especificación inductiva de datos

$$7 \in S \qquad \frac{n \in S}{n+7 \in S}$$

$$7, 14, 21, 28, 35, 42, \ldots, \infty$$

$$(0,0) \in S \qquad \frac{(k,l) \in S}{(k+1, l+2) \in S}$$

$$(0,0) \to (1,2) \to (3,4) \cdots \to (n, 2n)$$

S

A

Lista de parejas cuya primer elemento es múltiplo de 5 y el segundo múltiplo de 7

B

$$7 \in B \qquad 5 \in A$$

$$\frac{n \in B}{n+7 \in B} \qquad \frac{n \in A}{n+5 \in A}$$

$$r() \in S$$

$$\frac{l \in S \wedge a \in A \wedge b \in B}{((a\ b)\ l) \in S}$$

((5 7) (25 70))

car

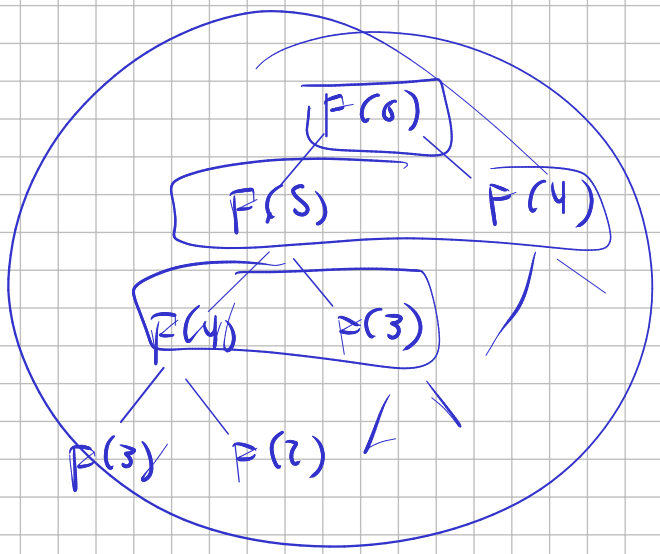
caar

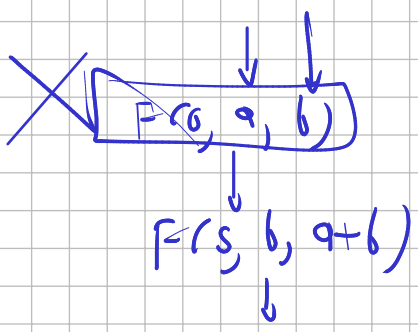
(U V)

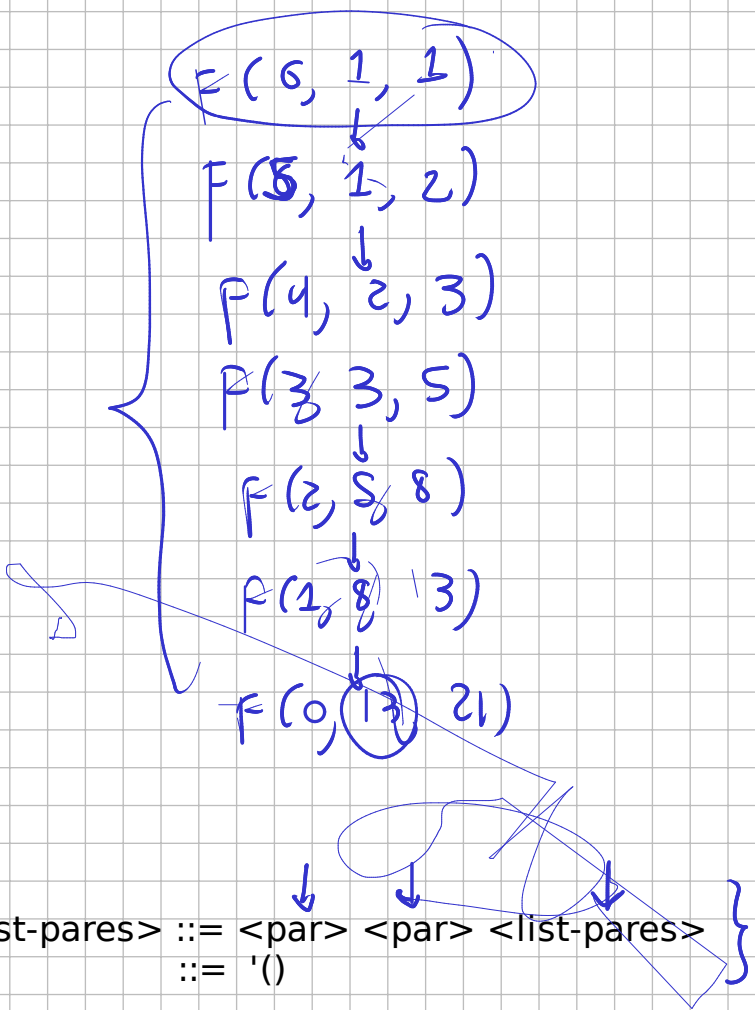
resto (cdr)

lista

elemento (car)





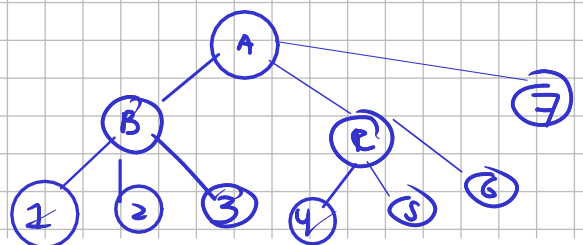


<list-pares> ::= <par> <par> <list-pares>
::= '()

<par> ::= 2|4|6|8|10|...

'((2 4) (4 8) (6 10))

<arbol-t> ::= <numero>
::= <simbolo> <arbol-t> <arbol-t> <arbol-t>




```
'(A
   (B 1 2 3)
   (C 4 5 6)
    7
)
```

<var-exp>   = Simbolo
<lambda-exp> = lambda (id) <exp>
<app-exp> = <exp> <exp>

<exp> ::= <simbolo>
        ::= lambda <simbolo> <exp>
        ::= <exp> <exp>

1) Simbolo = Simbolo buscado

2) Simbolo = simbolo y ocurre libre <exp>

3) or
   ocurre <exp1>
   ocurre <exp2>

Buscar x

'x <-- Libre
lambda (x) y <-- No libre / ligado
(x y) <-- libre

(x (x x)) <-- libre
(x (lambda (x) (x x)) <-- Libre
(lambda (x) (x x) (lambda (y) (lambda (x) (x y))))

ligado

(lambda (x) ...)
car cadr caddr

(let
(
  (x 5)
  (y 4)
)
  (+ x y)
)

DEF
Execution

(let
(
  (x (let ((y 3) (x 4)) (+ x y)))
  (y (lambda (x) (+ x y))
  (f 4)
)
  (y (+ x f))
)

DEF
EXP