

class  $c_1$  extends object

field a

field b

method initialize () 0

method setup (k, l)

begin

set a=+(k,3);

→ set b=l;

8

end

method m1 (n) send self m2 (+(a,n)) ↩

method m2 (n) \*(n, -(a,b))

method m4 (x, y) send self m1 (-(x,y))

class  $c_2$  extends  $c_1$

field b

field c

method setup (k, l)

begin

set b=k;

set c=-(k, l);

super setup(+(b,k), -(l,l));

send self m3(k)

end

method m2 (n) super m2(+(n, c))

method m3 (n) send self m1(\*(n,2))

method m4 (n, m) +(m, super m4(n, m))

class  $c_3$  extends  $c_2$

method m2 (n) super m2(n)

method m4 (n,m) \*(+(n,m),b)

let p=proc (o, r, q)

let  $r_1$  = send o setup(r, q)

in let  $r_2$  = send o m4(q, r)

$r_3$  = send o m1(r)

in +(r<sub>1</sub>, +(r<sub>2</sub>, r<sub>3</sub>))

$o_1$  = new  $c_1$ () ↩

$o_2$  = new  $c_2$ ()

$o_3$  = new  $c_3$ ()

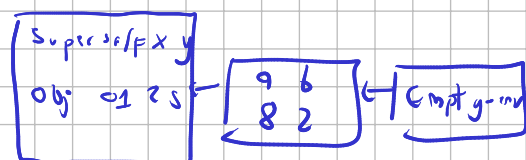
in let  $x$  = (p  $o_1$  5 2) ↩  $8 + 30 + 78 = 116$

$y$  = (p  $o_2$  4 1)

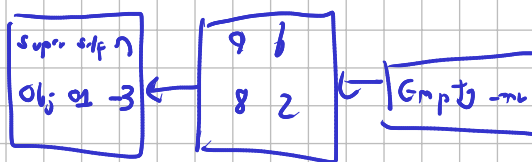
$z$  = (p  $o_3$  3 0)

in send  $o_2$  m4(x, +(y,z))

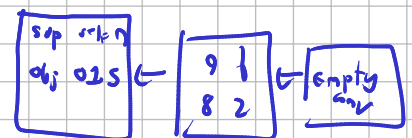
Send  $o_1$  m4(2, 5)



Send  $o_1$  m1(-3)



Send  $o_1$  m2(5)

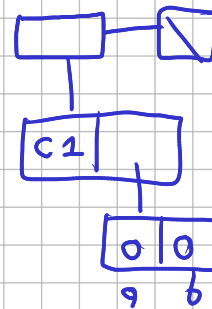


\* (n, -(r, b))  
\*(5, 6) = 30

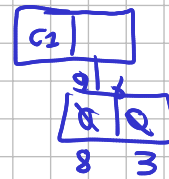
1) Dibuja los obj  $o_1, o_2, o_3$

2) Hacer la ambiente

01)

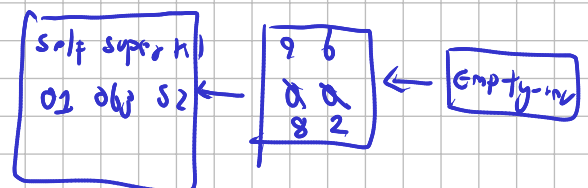


Simple



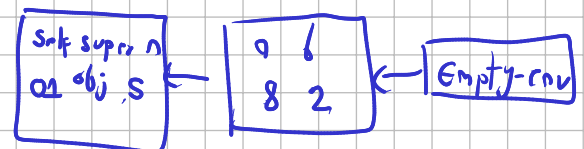
p/ong

Send  $o_1$  setup(5, 2)

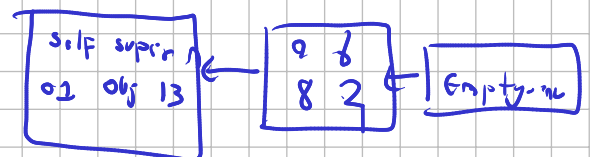


$v_1 = 8$

Send  $o_1$  m2(5)



Send  $o_1$  m2(13)



\* (n, -(r, b))

\*(13, 6) = 78

class  $c_1$  extends object

field a

field b

method initialize () 0

method setup (k, l)

begin

set  $a = +(k, 3)$ ;

set  $b = l$ ;

8

end

→ method m1 (n) send self m2 (+( $a, n$ ))

method m2 (n) \*( $n, -(a, b)$ )

method m4 (x, y) send self m1 (-( $x, y$ ))

class  $c_2$  extends  $c_1$

field b

field c

→ method setup (k, l)

begin

→ set  $b = k$ ;

→ set  $c = -(k, l)$ ;

→ super setup(+( $b, k$ ), -( $1, l$ )));

→ send self m3( $k$ )

end

→ method m2 (n) super m2(+( $n, c$ ))

→ method m3 (n) send self m1(\*( $n, 2$ ))

method m4 (n, m) +( $m, \text{super m4}(n, m)$ )

class  $c_3$  extends  $c_2$

method m2 (n) super m2( $n$ )

method m4 (n, m) \*(+( $n, m$ ),  $b$ )

let  $p = \text{proc } (o, r, q)$

let  $r_1 = \text{send } o \text{ setup}(r, q)$

in let  $r_2 = \text{send } o \text{ m4}(q, r)$

$r_3 = \text{send } o \text{ m1}(r)$

in +( $r_1, +(r_2, r_3)$ )

→  $o_1 = \text{new } c_1()$

→  $o_2 = \text{new } c_2()$

$o_3 = \text{new } c_3()$

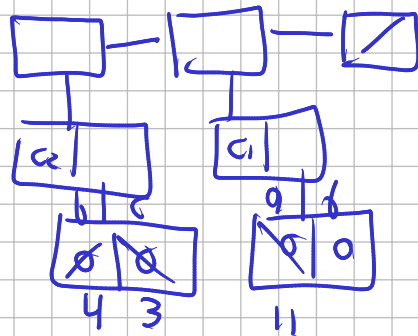
in let  $x = (p \ o_1 \ 5 \ 2)$

$y = (p \ o_2 \ 4 \ 1)$

→  $z = (p \ o_3 \ 3 \ 0)$

in send  $o_2 \text{ m4}(x, +(y, z))$

$O_2 =$

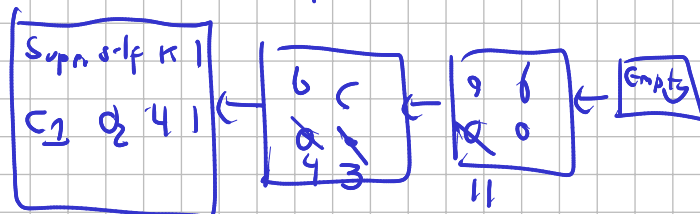


Simple

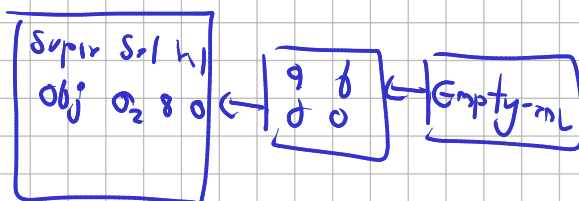


rlong

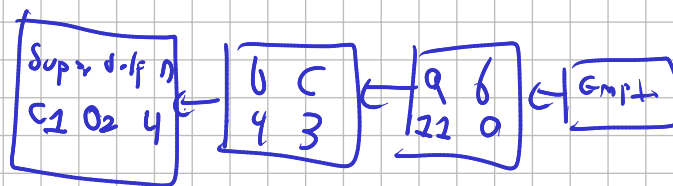
send  $o_2 \text{ setup}(4, 2)$



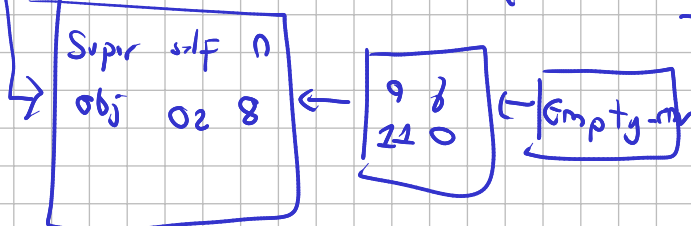
Super setup(8, 0)



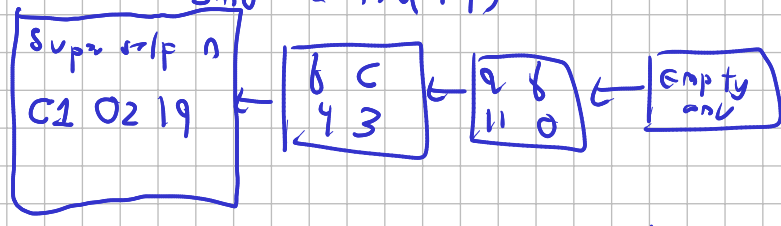
send  $o_2 \text{ m3}(4)$



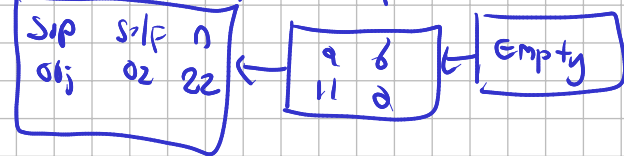
send  $o_2 \text{ m1}(8)$



send  $o_2 \text{ m2}(19)$



Super m2(22)



\*( $22, 11$ ) = 242

class c<sub>1</sub> extends object

field a

field b

method initialize () 0

method setup (k, l)

begin

set a += (k, 3);

set b = l;

8

end

→ method m1 (n) send self m2 (+(a, n))

method m2 (n) \*(n, -(a, b))

method m4 (x, y) send self m1 (-(x, y))

class c<sub>2</sub> extends c<sub>1</sub>

field b

field c

method setup (k, l)

begin

set b = k;

set c = -(k, l);

super setup(+ (b, k), -(l, l));

send self m3(k)

end

method m2 (n) super m2(+ (n, c)) ←

method m3 (n) send self m1(\*(n, 2))

method m4 (n, m) +(m, super m4(n, m))

class c<sub>3</sub> extends c<sub>2</sub>

method m2 (n) super m2(n)

method m4 (n, m) \*(+(n, m), b)

let p = proc (o, r, q)

let r<sub>1</sub> = send o setup(r, q)

in let r<sub>2</sub> = send o m4(q, r) ← 125

r<sub>3</sub> = send o m1(r) ←

in +(r<sub>1</sub>, +(r<sub>2</sub>, r<sub>3</sub>))

o<sub>1</sub> = new c<sub>1</sub>()

o<sub>2</sub> = new c<sub>2</sub>()

o<sub>3</sub> = new c<sub>3</sub>()

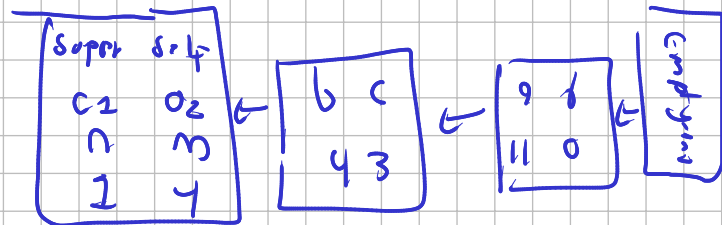
in let x = (p o<sub>1</sub> 5 2)

y = (p o<sub>2</sub> 4 1)

z = (p o<sub>3</sub> 3 0) —

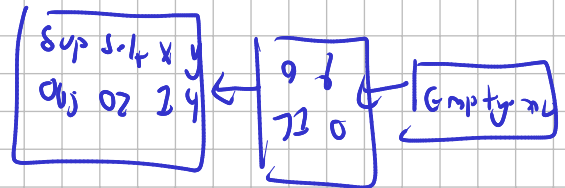
in send o<sub>2</sub> m4(x, +(y, z))

Send o<sub>2</sub> m4(2, 4)

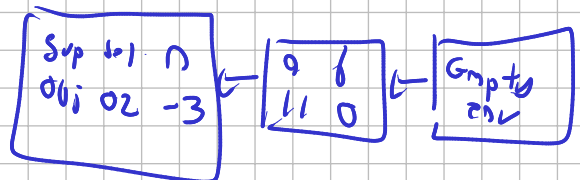


+(m, super m4(n, m))

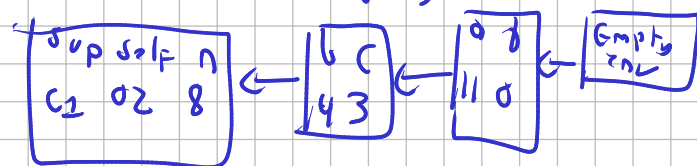
+(4, super m4(2, 4))



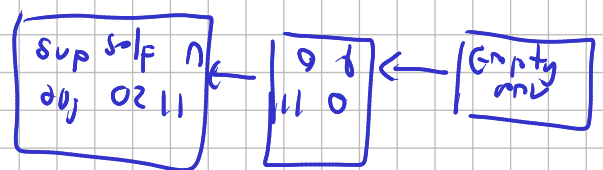
Send o<sub>2</sub> m2(-3)



Send o<sub>2</sub> m2(8)



Super m2(11)



\*(11, 11) = 121

125

class  $c_1$  extends object

field a

field b

method initialize () 0

method setup (k, l)

begin

set  $a = +(k, 3)$ ;

set  $b = l$ ;

8

end

method m1 (n) send self m2 (+ (a, n))

method m2 (n) \* (n, - (a, b))

method m4 (x, y) send self m1 (- (x, y))

class  $c_2$  extends  $c_1$

field b

field c

method setup (k, l)

begin

set  $b = k$ ;

set  $c = - (k, l)$ ;

super setup (+ (b, k), - (1, l));

send self m3 (k)

end

→ method m2 (n) super m2 (+ (n, c))

method m3 (n) send self m1 (\* (n, 2))

method m4 (n, m) + (m, super m4 (n, m))

class  $c_3$  extends  $c_2$

method m2 (n) super m2 (n)

method m4 (n, m) \* (+ (n, m), b)

let p = proc (o, r, q)

let  $r_1 = \text{send } o \text{ setup}(r, q)$

in let  $r_2 = \text{send } o \text{ m4}(q, r)$

$r_3 = \text{send } o \text{ m1}(r) \leftarrow 198$

in + ( $r_1$ , + ( $r_2, r_3$ ))

$o_1 = \text{new } c_1()$

$o_2 = \text{new } c_2()$

$o_3 = \text{new } c_3()$

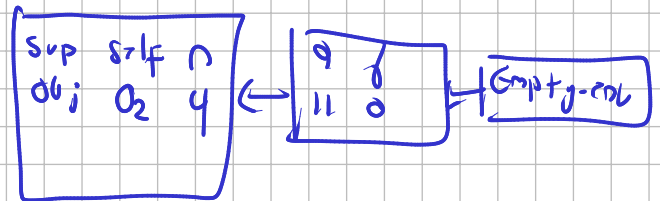
in let  $x = (p \ o_1 \ 5 \ 2)$

$y = (p \ o_2 \ 4 \ 1)$

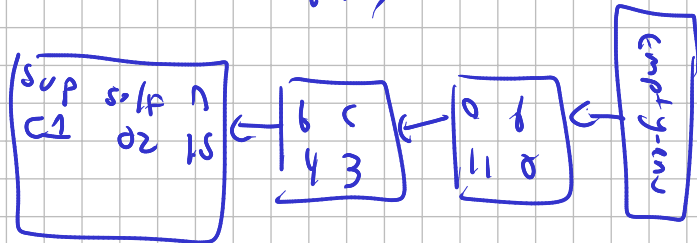
$z = (p \ o_3 \ 3 \ 0)$

in send  $o_2 \ m4(x, +(y, z))$

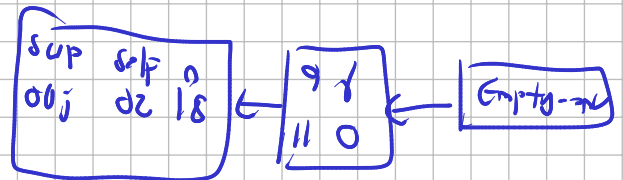
Send  $o_2 \ m1(4)$



Send  $o_2 \ m2(18)$



Super m2 (18)



$\ast(18, 11) = 198$