

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 +(r₁, +(r₂, r₃))

o_1 = new c_1 () ↵

o_2 = new c_2 ()

o_3 = new c_3 ()

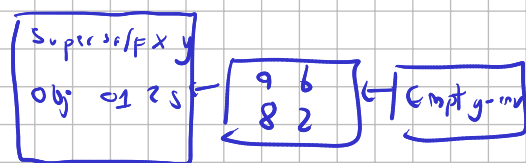
in let x = (p o_1 5 2) ↵ $8 + 30 + 78 = 116$

y = (p o_2 4 1)

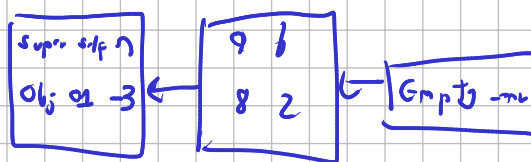
z = (p o_3 3 0)

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

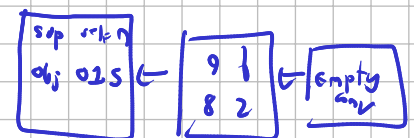
Send o_1 m4(2, 5)



Send o_1 m1(-3)



Send o_1 m2(5)

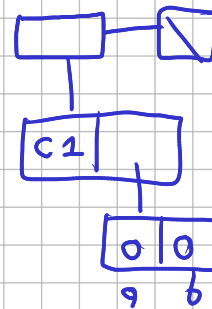


*(n, -(r, b))
*(5, 6) = 30

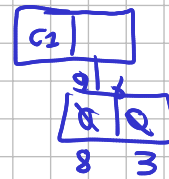
1) Dibuja los obj o_1, o_2, o_3

2) Hacer la ambiente

01)

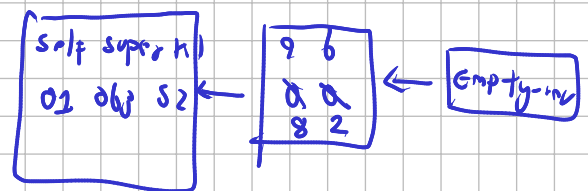


Simple



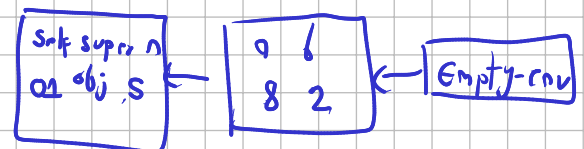
p/ong

Send o_1 setup(5, 2)

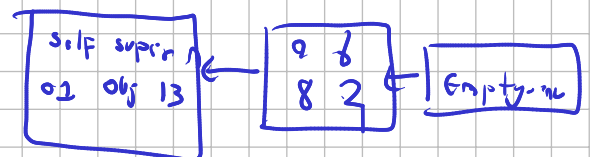


$v_1 = 8$

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

→ $o_1 = \text{new } c_1()$

→ $o_2 = \text{new } c_2()$

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

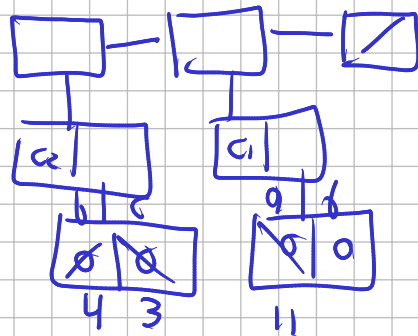
in let $x = (p \ o_1 \ 5 \ 2)$

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

→ $z = (p \ o_3 \ 3 \ 0)$

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

$O_2 =$

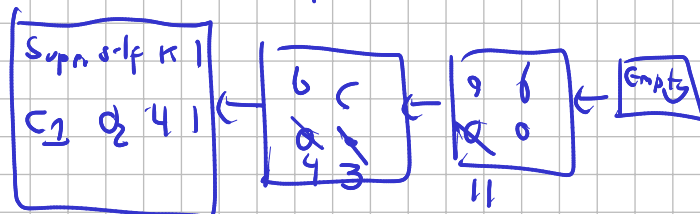


Simple

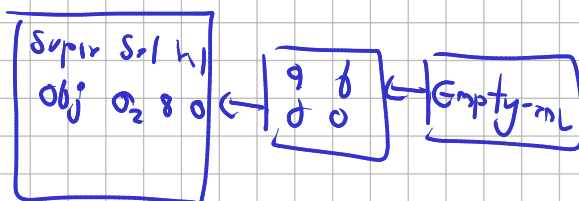


rlong

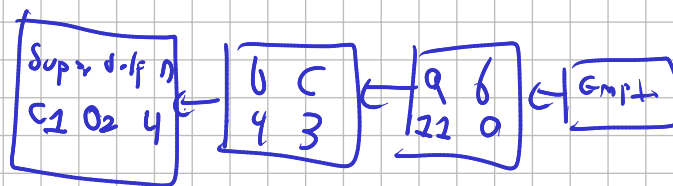
send $o_2 \text{ setup}(4, 2)$



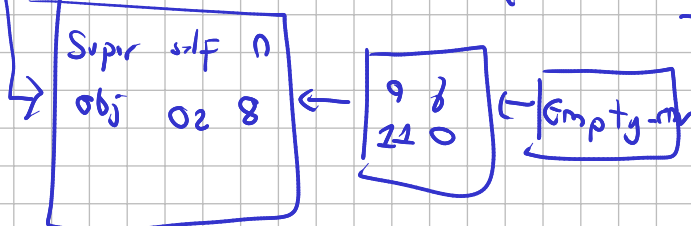
Super setup(8, 0)



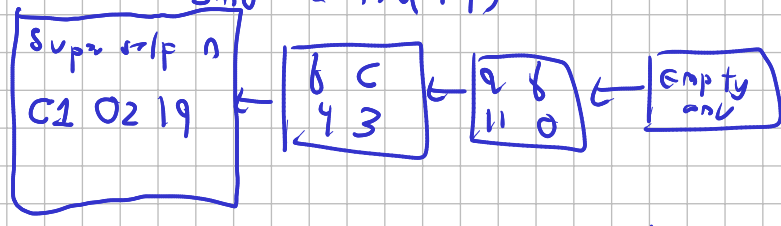
send $o_2 \text{ m3}(4)$



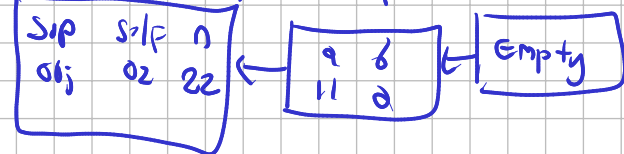
send $o_2 \text{ m1}(8)$



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



Super m2(22)



*($22, 11$) = 242

class c₁ 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 c₂ extends c₁

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 c₃ extends c₂

method m2 (n) super m2(n)

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

let p = proc (o, r, q)

let r₁ = send o setup(r, q)

in let r₂ = send o m4(q, r) ← 125

r₃ = send o m1(r) ←

in +(r₁, +(r₂, r₃))

o₁ = new c₁()

o₂ = new c₂()

o₃ = new c₃()

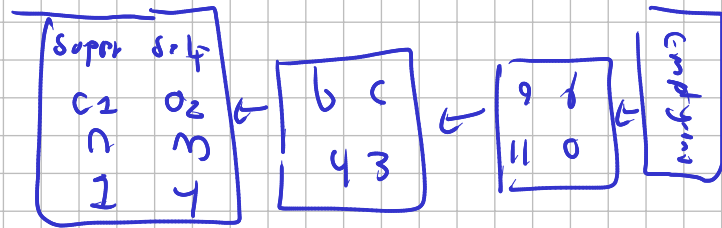
in let x = (p o₁ 5 2)

y = (p o₂ 4 1)

z = (p o₃ 3 0) —

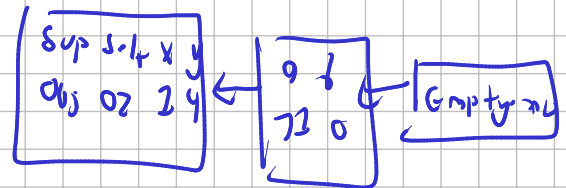
in send o₂ m4(x, +(y, z))

Send o₂ m4(2, 4)

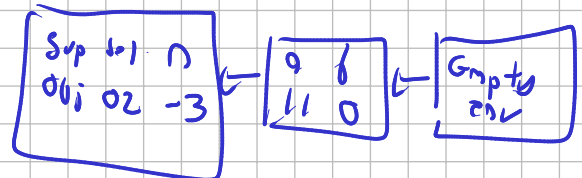


+(m, super m4(n, m))

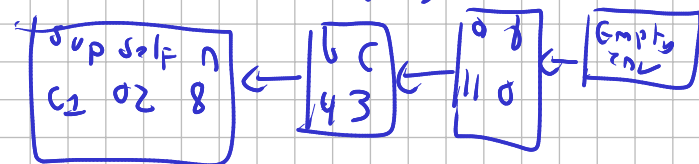
+(4, super m4(2, 4))



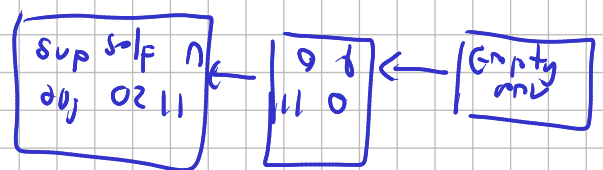
Send o₂ m2(-3)



Send o₂ 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))

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

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

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

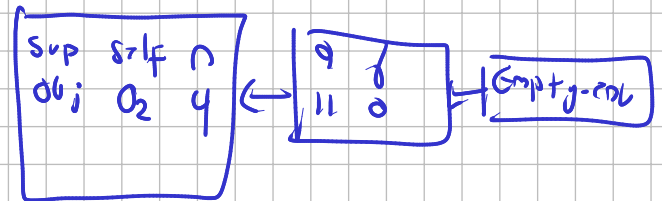
in let $x = (p \ o_1 \ 5 \ 2)$

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

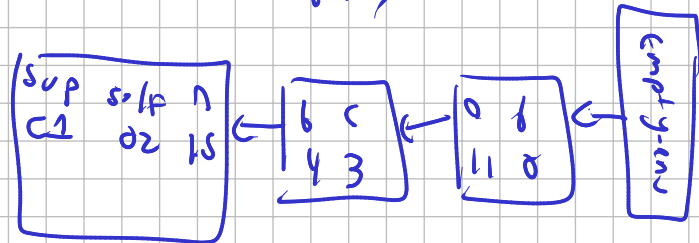
$z = (p \ o_3 \ 3 \ 0)$

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

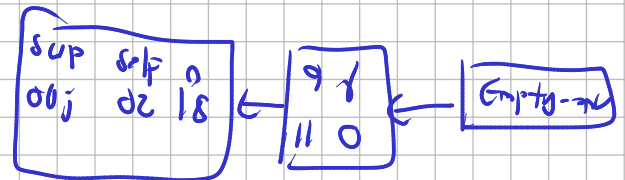
Send $o_2 \ m1(4)$



Send $o_2 \ m2(18)$



Super m2 (18)



$\ast(18, 11) = 198$

```

class c1 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 c2 extends c1
  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 c3 extends c2
  method m2 (n) super m2(n)
  method m4 (n,m) *(+(n,m),b)

```

```

let p=proc (o, r, q)
  let r1 = send o setup(r, q). 144
  in let r2 = send o m4(q, r)
    r3 = send o m1(r)
    in +(r1, +(r2,r3 ))

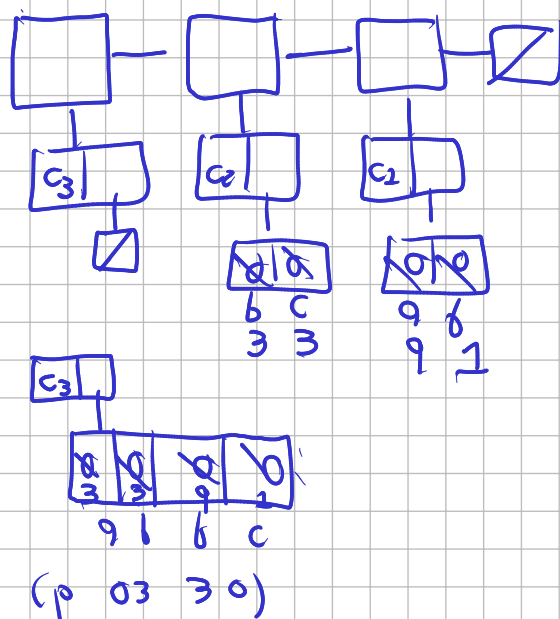
```

```

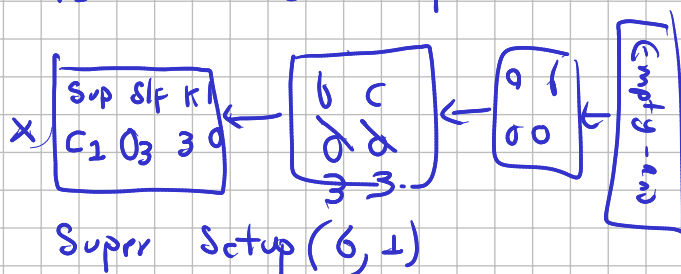
o1 = new c1()
o2 = new c2()
o3 = new c3()
in let x= (p o1 5 2)
  y= (p o2 4 1)
  z= (p o3 3 0)
  in send o2 m4(x, +(y,z))

```

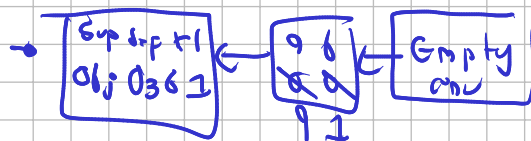
$O_3 = \text{new } C_3()$



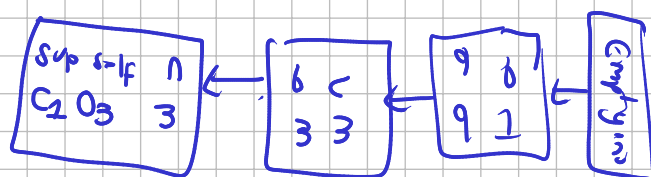
$r_1 = \text{Send } O_3 \text{ setup}(3, 0)$



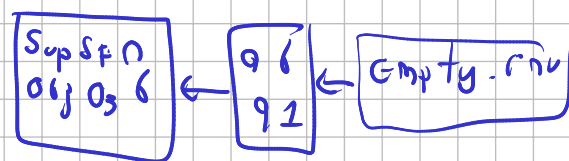
Super Setup(6, 1)



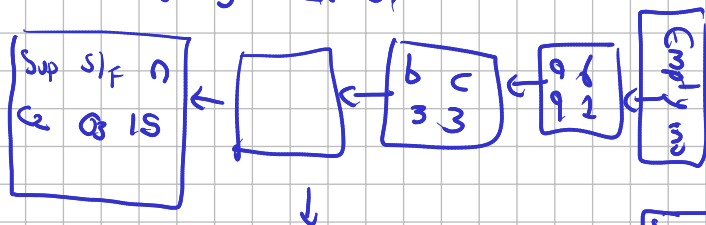
Send self m3(3)



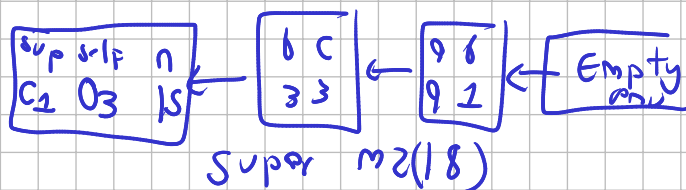
Send O3 m2(6)



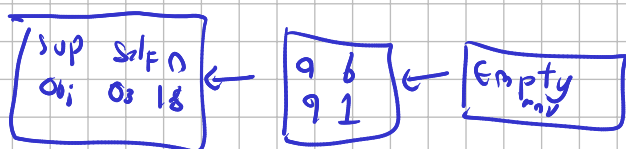
Send O3 m2(15)



Super m2(15)



Super m2(18)



$x(n, -(a, b))$
 $(18, 8)$
 144

```

class c1 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 c2 extends c1
  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 c3 extends c2
  method m2 (n) super m2(n)
  method m4 (n,m) *(+(n,m),b)

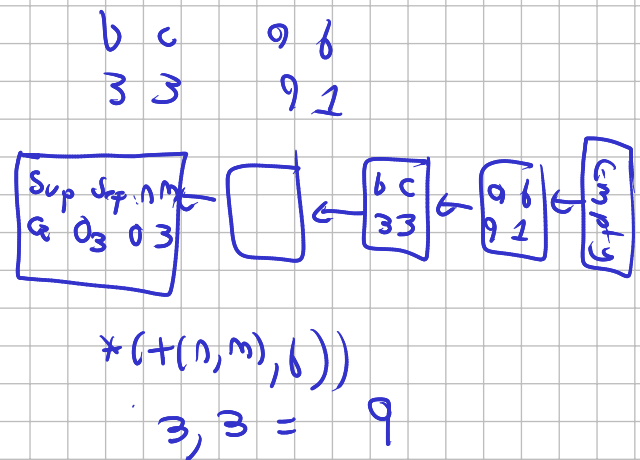
```

```

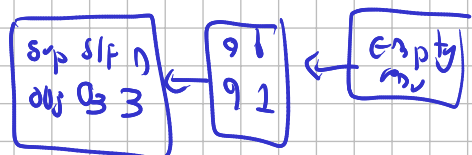
let p=proc (o, r, q)
  let r1 = send o setup(r, q)
  in let r2 = send o m4(q, r) ← 9
    r3 = send o m1(r) ← 9
    in +(r1, +(r2, r3 )) 120

o1 = new c1()
o2 = new c2()
o3 = new c3()
in let x= (p o1 5 2)
  y= (p o2 4 1)
  z= (p o3 3 0)
  in send o2 m4(x, +(y,z))

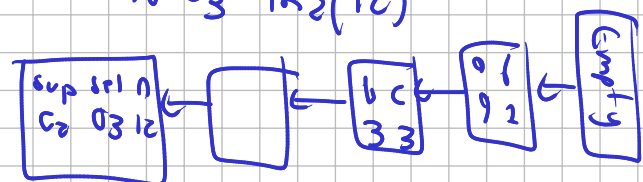
```



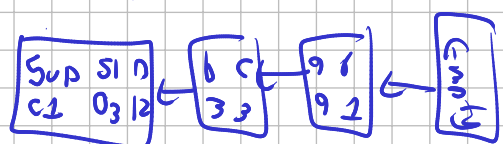
Send o3 m1(3)



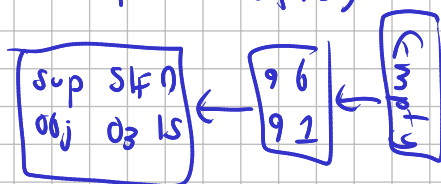
Send o3 m2(12)



Super m2(12)



Super m2(15)



$$*(n, -(a, b))$$

$$15, 8 = 120$$


```

class c1 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 c2 extends c1
  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 c3 extends c2
  method m2 (n) super m2(n)
  method m4 (n,m) *(+(n,m),b)

```

```

let p=proc (o, r, q)
  let r1 = send o setup(r, q)
  in let r2 = send o m4(q, r)
    r3 = send o m1(r)
    in +(r1, +(r2,r3 ))

```

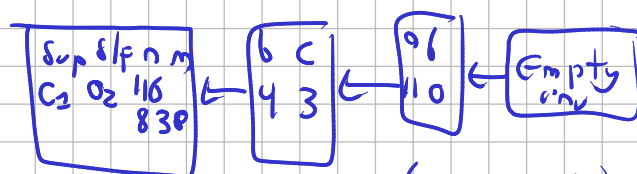
```

o1 = new c1()
o2 = new c2()
o3 = new c3()
in let x= (p o1 5 2)
  y= (p o2 4 1)
  z= (p o3 3 0)
  ->in send o2 m4(x, +(y,z))

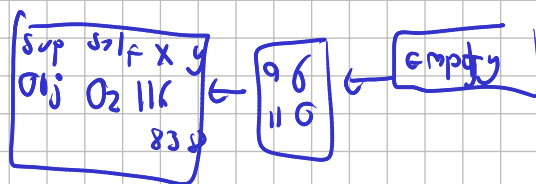
```

b c 9 6
4 3 11 0

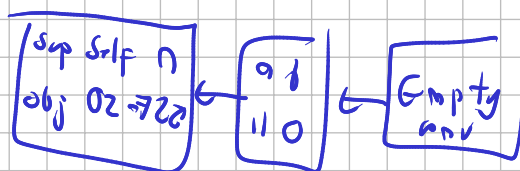
✓ Send o2 m4(116, 838)



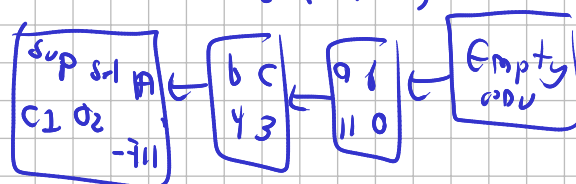
+(838, super m4(116, 838))



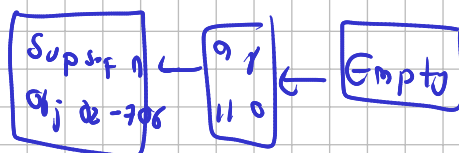
Send o2 m1(-722)



Send o2 m2(-711)



Super m2(-708)



*(n, -(9, 6))

*(-708, 11) -7789

-7789 + 838
-6950