

Alcance Estatico y Asociacion Profunda

Jesus Gutierrez
20-10332

```
int a = X + 1, b = Y;

proc goma(int a) {
  b := Z * a;
}

proc pistol(int c, proc lu, proc ffy) {
  if (c < 2 * (X + 1)) {
    proc goma(int b) {
      a := b * c;
    }
    pistol(c + 2 * (X + 1), ffy, lu);
  } else if (c < 4 * (X + 1)) {
    int a = b + c;
    pistol(c + 2 * (X + 1), goma, ffy);
  } else {
    int c = Z;
    lu(a + b);
    ffy(b + c);
  }
  print(a, b)
}

pistol(a, goma, goma);
print(a, b)
```

GLOBAL

print(a,b) global

4 32

pistol	proc
goma	proc
b	3 --> 14 --> 32
a	4

X= 3, Y=3, Z= 2

13	a	16
----	---	----

Desempilado luego de llamar a ffy(b+c)

12	a	7
----	---	---

Desempilado luego de llamar a lu(a+b)

11	c	2
----	---	---

10	ffy	gomaG
----	-----	-------

9	lu	gomaG
---	----	-------

8	c	20
---	---	----

7	a	15
---	---	----

6	ffy	gomaG
---	-----	-------

5	lu	gomaG
---	----	-------

4	c	12
---	---	----

3	goma	proc
---	------	------

2	ffy	gomaG
---	-----	-------

1	lu	gomaG
---	----	-------

0	c	4
---	---	---

b	G
---	---

print(a,b) luego del else

4 32

print(a,b) luego del 2do if

4 32

print(a,b) luego del 1er if

4 32

Alcance Estatico y Asociacion Superficial

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```
int a = X + 1, b = Y;

proc goma(int a) {
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proc pistol(int c, proc lu, proc ffy) {
    if (c < 2 * (X + 1)) {
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            a := b * c;
        }
        pistol(c + 2 * (X + 1), ffy, lu);
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    } else {
        int c = Z;
        lu(a + b);
        ffy(b + c);
    }
    print(a, b)
}
```

GLOBAL

print(a,b) global

4 32

pistol	proc
goma	proc
b	3'--> 14'--> 32
a	4

X= 3, Y=3, Z= 2

13	a	16
----	---	----

Desempilado luego de llamar a ffy(b+c)

12	a	7
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Desempilado luego de llamar a lu(a+b)

11	c	2
----	---	---

10	ffy	gomaG
----	-----	-------

9	lu	gomaG
---	----	-------

8	c	20
---	---	----

7	a	15
---	---	----

6	ffy	gomaG
---	-----	-------

5	lu	gomaG
---	----	-------

4	c	12
---	---	----

3	goma	proc
---	------	------

2	ffy	gomaG
---	-----	-------

1	lu	gomaG
---	----	-------

0	c	4
---	---	---

b	G
---	---

print(a,b) luego del else

4 32

print(a,b) luego del 2do if

4 32

print(a,b) luego del 1er if

4 32

Alcance Dinamico y Asociacion Superficial

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```
int a = X + 1, b = Y;

proc goma(int a) {
  b := Z * a;
}

proc pistol(int c, proc lu, proc ffy) {
  if (c < 2 * (X + 1)) {
    proc goma(int b) {
      a := b * c;
    }
    pistol(c + 2 * (X + 1), ffy, lu);
  } else if (c < 4 * (X + 1)) {
    int a = b + c;
    pistol(c + 2 * (X + 1), goma, ffy);
  } else {
    int c = Z;
    lu(a + b);
    ffy(b + c);
  }
  print(a, b)
}
```

X= 3, Y=3, Z= 2

13	a	5
----	---	---

Desempilado luego de llamar a ffy(b+c)

12	b	18
----	---	----

Desempilado luego de llamar a lu(a+b)

11	c	2
----	---	---

10	ffy	gomaG
----	-----	-------

9	lu	goma3
---	----	-------

8	c	20
---	---	----

7	a	15 --> 36
---	---	-----------

6	ffy	gomaG
---	-----	-------

5	lu	gomaG
---	----	-------

4	c	12
---	---	----

3	goma	proc
---	------	------

2	ffy	gomaG
---	-----	-------

1	lu	gomaG
---	----	-------

0	c	4
---	---	---

b	G
---	---

print(a,b) luego del else

36 72

a	7
c	11

print(a,b) luego del 2do if

36 72

print(a,b) luego del 1er if

4 72

GLOBAL

pistol	proc
goma	proc
b	3 --> 72
a	4

print(a,b) global

4 72

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```
int a = X + 1, b = Y;
```

```
proc goma(int a) {  
  b := Z * a;  
}
```

```
proc pistol(int c, proc lu, proc ffy) {  
  if (c < 2 * (X + 1)) {  
    proc goma(int b) {  
      a := b * c;  
    }  
    pistol(c + 2 * (X + 1), ffy, lu);  
  } else if (c < 4 * (X + 1)) {  
    int a = b + c;  
    pistol(c + 2 * (X + 1), goma, ffy);  
  } else {  
    int c = Z;  
    lu(a + b);  
    ffy(b + c);  
  }  
  print(a, b)  
}
```

GLOBAL

print(a,b) global

4 10

pistol	proc
goma	proc
b	3 --> 10
a	4

X= 3, Y=3, Z= 2

13	a	5
----	---	---

Desempilado luego de llamar a ffy(b+c)

12	b	18
----	---	----

Desempilado luego de llamar a lu(a+b)

11	c	2
----	---	---

10	ffy	gomaG
----	-----	-------

9	lu	goma3
---	----	-------

8	c	20
---	---	----

7	a	15 --> 18x12
---	---	--------------

6	ffy	gomaG
---	-----	-------

5	lu	gomaG
---	----	-------

4	c	12
---	---	----

3	goma	proc
---	------	------

2	ffy	gomaG
---	-----	-------

1	lu	gomaG
---	----	-------

0	c	4
---	---	---

a	7
c	4

print(a,b) luego del else

18x12 10

print(a,b) luego del 2do if

18x12 10

print(a,b) luego del 1er if

4 10

b	G
---	---