PARCIAL III - CI3641 - JOAO PINTO 17-10490

PREGUNTA 3

ASOCIACIÓN ESTÁTICA DE MÉTODOS

EJECUCIÓN PASO A PASO

```
    class A {
        int a = 4, b = 9

        fun p(int x): int {
▸ 0         a = b * x
▸ 1         return q(a)
        }

        fun q(int y): int {
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        }
    }

    class B extends A {
        A sopa = new C()

        fun q(int y): int {
▸ 3         return sopa.p(a + b) + y
        }
    }

    class C extends B {
        int c = 0

        fun p(int x): int {
▸ 4         a = 3 + x
▸ 5         c = 2 * b - x
▸ 6         return q(a + b + c)
        }

        fun q(int y): int {
▸ 7         return c + y
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    }

▸ 8 A mon = new B()
▸ 9 A don = new C()
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▸ 11 print(mon.p(1) + don.p(1) + go.p(1))
```

Nombre	TE	TD	Methods table	Values
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go	B	C	p -> A, q -> B	a = 4, b = 9, c = 0
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Global	PC	11

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mon.p	x	1
	PC	1
	return	-

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mon.q	y	9
	PC	2
	return	18
mon.p	x	1
	PC	1
	return	-
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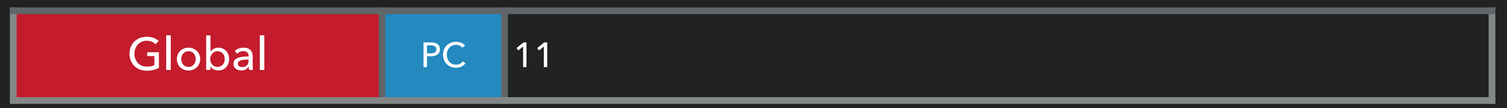
El objeto don tiene el mismo *tipo estático* y los *mismos valores iniciales* para a y b que el objeto mon. Ademas el atributo c no es utilizado en por *el tipo estático* A.

Por lo tanto los resultados (y pasos) de ejecución de don.p(1) son idénticos a los de mon.p(1).

Se omiten los pasos, en la siguiente lamina están los resultados.



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go.p	x	1
	PC	1
	return	-

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go.q	y	9
	PC	3
	return	-
go.p	x	1
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don.sopa	A	C	p -> A, q -> A	a = 4, b = 9, c = 0
go.sopa	A	C	p -> A, q -> A	a = 162, b = 9, c = 0

go.sopa.p	x	18
	PC	1
	return	-
go.q	y	9
	PC	3
	return	-
go.p	x	1
	PC	1
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go.sopa	A	C	p -> A, q -> A	a = 162, b = 9, c = 0

go.sopa.q	y	162
	PC	2
	return	324
go.sopa.p	x	18
	PC	1
	return	-
go.q	y	9
	PC	3
	return	-

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go.sopa.p	x	18
	PC	1
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go.q	y	9
	PC	3
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go.q	y	9
	PC	3
	return	324 + 9 = 333
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	PC	1
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        }
    }

    class B extends A {
        A sopa = new C()

        fun q(int y): int {
▸ 3         return sopa.p(a + b) + y
        }
    }

    class C extends B {
        int c = 0

        fun p(int x): int {
▸ 4         a = 3 + x
▸ 5         c = 2 * b - x
▸ 6         return q(a + b + c)
        }

        fun q(int y): int {
▸ 7         return c + y
        }
    }

▸ 8 A mon = new B()
▸ 9 A don = new C()
▸ 10 B go = new C()

▸ 11 print(mon.p(1) 18 + don.p(1) 18 + go.p(1) 333)
```

Nombre	TE	TD	Methods table	Values
mon	A	B	p -> A, q -> A	a = 9, b = 9
don	A	C	p -> A, q -> A	a = 9, b = 9, c = 0
go	B	C	p -> A, q -> B	a = 9, b = 9, c = 0
mon.sopa	A	C	p -> A, q -> A	a = 4, b = 9, c = 0
don.sopa	A	C	p -> A, q -> A	a = 4, b = 9, c = 0
go.sopa	A	C	p -> A, q -> A	a = 162, b = 9, c = 0

IMPRIME

```
> 369
```

Global	PC	11

ASOCIACIÓN ESTÁTICA DE MÉTODOS

RESULTADOS

FINALMENTE

El programa imprime:

```
A mon = new B()
A don = new C()
B go = new C()

print(mon.p(1) + don.p(1) + go.p(1))


> 369
```