Tarea 2

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Resultados de ejecutar los siguientes comandos:

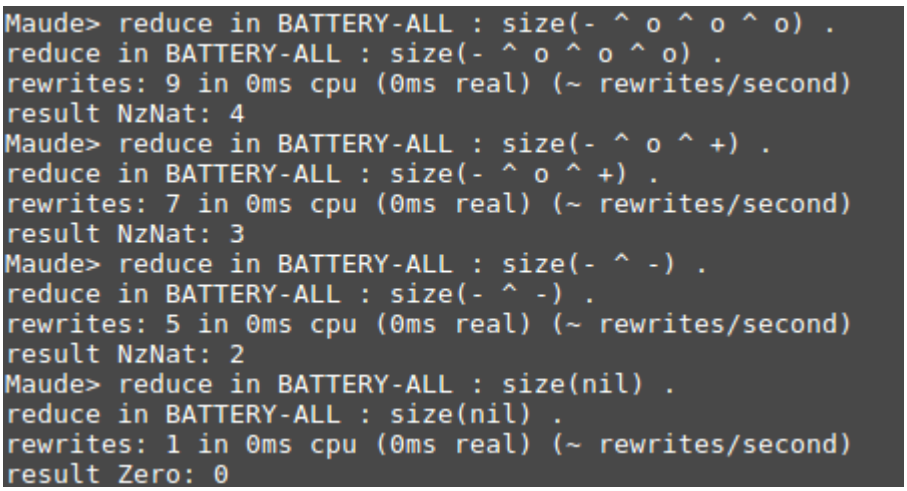
1. op size : Battery -> Nat .

```
Maude> reduce in BATTERY-ALL : size(- ^ o ^ o ^ o) .
reduce in BATTERY-ALL : size(- ^ o ^ o ^ o) .
rewrites: 9 in 0ms cpu (0ms real) (~ rewrites/second)
result NzNat: 4


Maude> reduce in BATTERY-ALL : size(- ^ o ^ +) .
reduce in BATTERY-ALL : size(- ^ o ^ +) .
rewrites: 7 in 0ms cpu (0ms real) (~ rewrites/second)
result NzNat: 3


Maude> reduce in BATTERY-ALL : size(- ^ -) .
reduce in BATTERY-ALL : size(- ^ -) .
rewrites: 5 in 0ms cpu (0ms real) (~ rewrites/second)
result NzNat: 2


Maude> reduce in BATTERY-ALL : size(nil) .
reduce in BATTERY-ALL : size(nil) .
rewrites: 1 in 0ms cpu (0ms real) (~ rewrites/second)
result Zero: 0
```



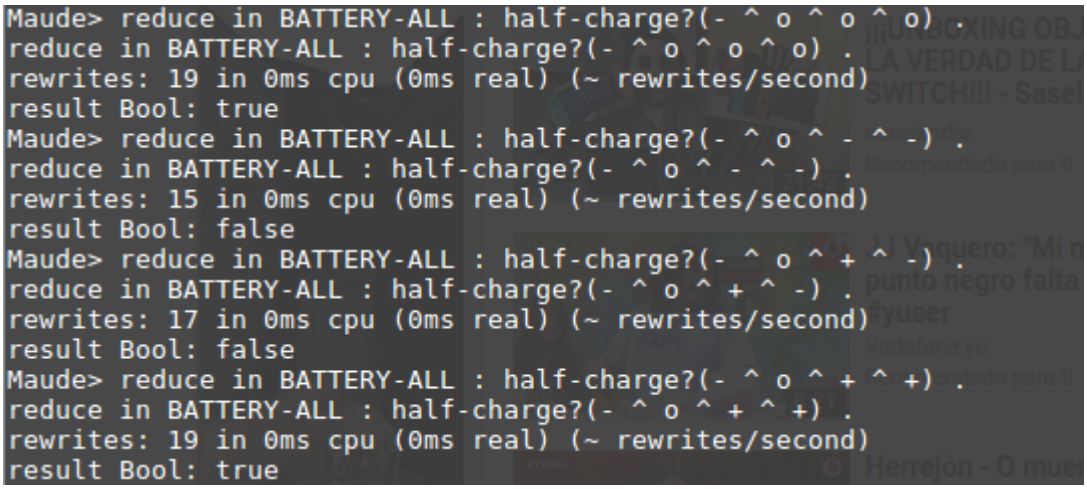
2. op half-charge? : Battery -> Bool .

```
Maude> reduce in BATTERY-ALL : half-charge?(- ^ o ^ o ^ o) .
reduce in BATTERY-ALL : half-charge?(- ^ o ^ o ^ o) .
rewrites: 19 in 0ms cpu (0ms real) (~ rewrites/second)
result Bool: true

Maude> reduce in BATTERY-ALL : half-charge?(- ^ o ^ - ^ -) .
reduce in BATTERY-ALL : half-charge?(- ^ o ^ - ^ -) .
rewrites: 15 in 0ms cpu (0ms real) (~ rewrites/second)
result Bool: false

Maude> reduce in BATTERY-ALL : half-charge?(- ^ o ^ + ^ -) .
reduce in BATTERY-ALL : half-charge?(- ^ o ^ + ^ -) .
rewrites: 17 in 0ms cpu (0ms real) (~ rewrites/second)
result Bool: false

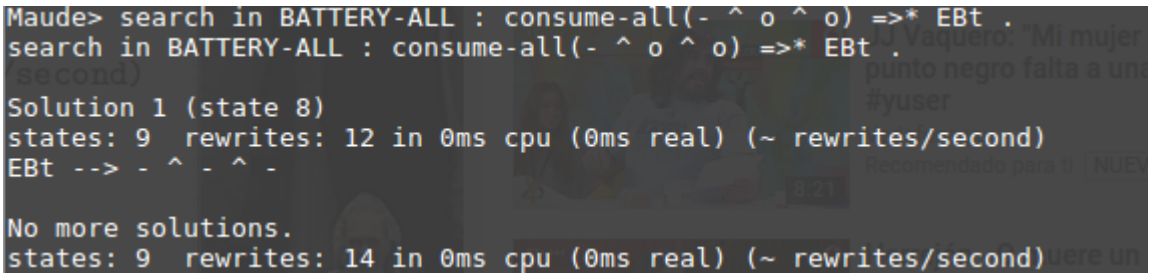
Maude> reduce in BATTERY-ALL : half-charge?(- ^ o ^ + ^ +) .
reduce in BATTERY-ALL : half-charge?(- ^ o ^ + ^ +) .
rewrites: 19 in 0ms cpu (0ms real) (~ rewrites/second)
result Bool: true
```



3. op consume-all : Battery -> Battery .

```
Maude> search in BATTERY-ALL : consume-all(- ^ o ^ o) =>* EBt .
search in BATTERY-ALL : consume-all(- ^ o ^ o) =>* EBt .

Solution 1 (state 8)
states: 9  rewrites: 12 in 0ms cpu (0ms real) (~ rewrites/second)
EBt --> - ^ - ^ -
```



4. show search graph .

```
Maude> show search graph .
state 0, Battery: consume-all(- ^ o ^ o)
arc 0 ===> state 1 (rl consume-all(FirstBt ^ o ^ SecondBt) => consume-all(FirstBt ^
    + ^ SecondBt) .)
arc 1 ===> state 2 (rl consume-all(FirstBt ^ o ^ SecondBt) => consume-all(FirstBt ^
    + ^ SecondBt) .)

state 1, Battery: consume-all(- ^ + ^ o)
arc 0 ===> state 3 (rl consume-all(FirstBt ^ o ^ SecondBt) => consume-all(FirstBt ^
    + ^ SecondBt) .)
arc 1 ===> state 4 (rl consume-all(FirstBt ^ + ^ SecondBt) => consume-all(FirstBt ^
    - ^ SecondBt) .)

state 2, Battery: consume-all(- ^ o ^ +)
arc 0 ===> state 3 (rl consume-all(FirstBt ^ o ^ SecondBt) => consume-all(FirstBt ^
    + ^ SecondBt) .)
arc 1 ===> state 5 (rl consume-all(FirstBt ^ + ^ SecondBt) => consume-all(FirstBt ^
    - ^ SecondBt) .)

state 3, Battery: consume-all(- ^ + ^ +)
arc 0 ===> state 6 (rl consume-all(FirstBt ^ + ^ SecondBt) => consume-all(FirstBt ^
    - ^ SecondBt) .)
arc 1 ===> state 7 (rl consume-all(FirstBt ^ + ^ SecondBt) => consume-all(FirstBt ^
    - ^ SecondBt) .)

state 4, Battery: consume-all(- ^ - ^ o)
arc 0 ===> state 6 (rl consume-all(FirstBt ^ o ^ SecondBt) => consume-all(FirstBt ^
    + ^ SecondBt) .)

state 5, Battery: consume-all(- ^ o ^ -)
arc 0 ===> state 7 (rl consume-all(FirstBt ^ o ^ SecondBt) => consume-all(FirstBt ^
    + ^ SecondBt) .)

state 6, Battery: consume-all(- ^ - ^ +)
arc 0 ===> state 8 (rl consume-all(FirstBt ^ + ^ SecondBt) => consume-all(FirstBt ^
    - ^ SecondBt) .)

state 7, Battery: consume-all(- ^ + ^ -)
arc 0 ===> state 8 (rl consume-all(FirstBt ^ + ^ SecondBt) => consume-all(FirstBt ^
    - ^ SecondBt) .)

state 8, EBattery: - ^ - ^ -
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