PROLOG – comando trace

- SWISH
- SWI-Prolog desde PC

Uso de trace

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Program

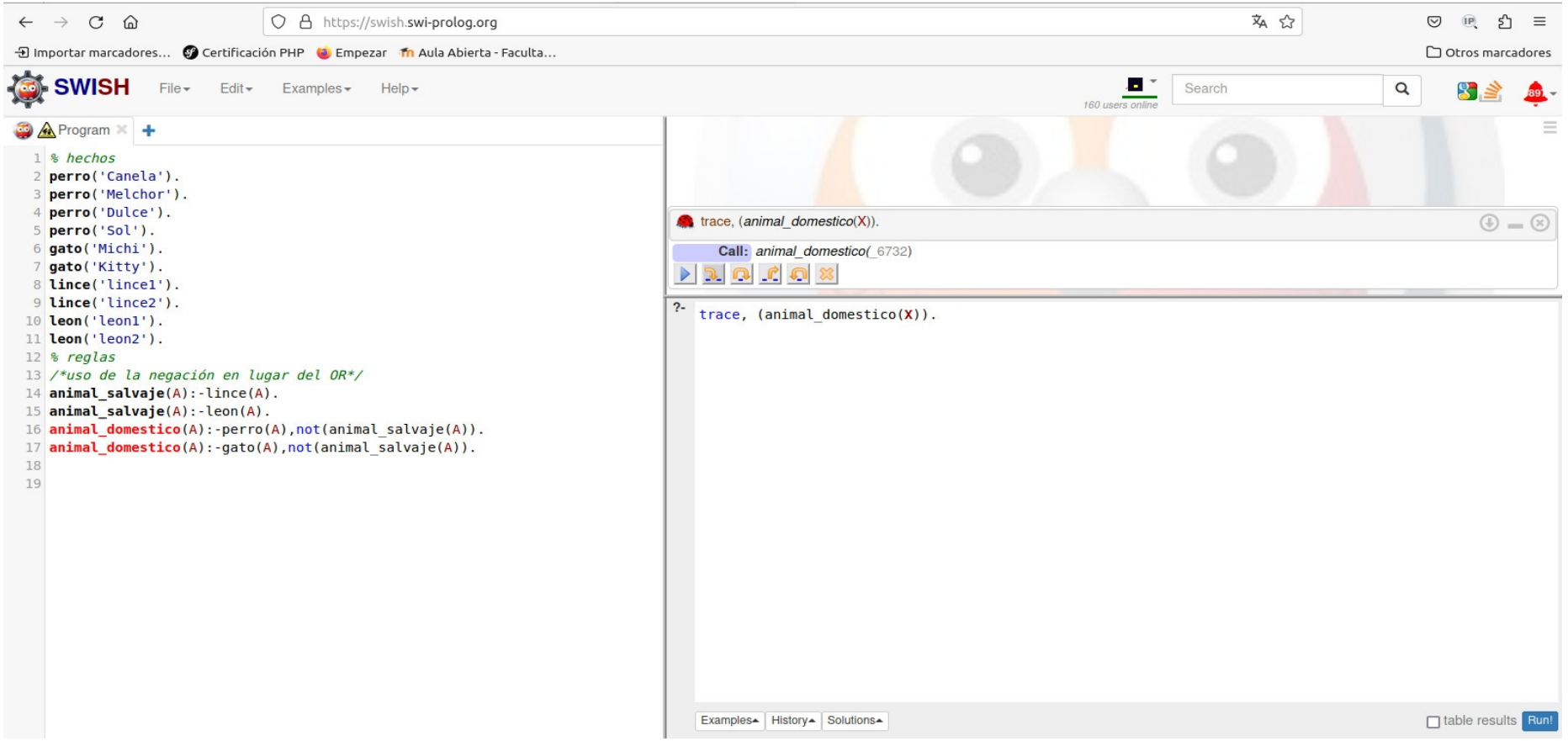
```
% hechos
perro('Canela').
perro('Melchor').
perro('Dulce').
perro('Sol').
gato('Michi').
gato('Kitty').
lince('lince1').
lince('lince2').
leon('leon1').
leon('leon2').
% reglas
/*uso de la negación en lugar del OR*/
animal_salvaje(A):-lince(A).
animal_salvaje(A):-leon(A).
animal_domestico(A):-perro(A),not(animal_salvaje(A)).
animal_domestico(A):-gato(A),not(animal_salvaje(A)).
```

```
?- trace, (animal_domestico(X)).
```

Examples History Solutions

table results Run!

Uso de trace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Program
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animal_salvaje(A):-leon(A).
animal_domestico(A):-perro(A),not(animal_salvaje(A)).
animal_domestico(A):-gato(A),not(animal_salvaje(A)).
trace, (animal_domestico(X)).
Call: animal_domestico(_6732)
?-
trace, (animal_domestico(X)).
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animal_domestico(A):-perro(A),not(animal_salvaje(A)).
animal_domestico(A):-gato(A),not(animal_salvaje(A)).
```

trace, (animal_domestico(X)).

```
Call: animal_domestico(_6732)
Call: perro(_514)
Exit: perro('Canela')
Call: not(animal_salvaje('Canela'))
Exit: not('82d03690-092b-426c-941e-335d3e8a60f1' :animal_salvaje('Canela'))
Exit: animal_domestico('Canela')
X = 'Canela'
Redo: perro(_514)
Exit: perro('Melchor')
Call: not(animal_salvaje('Melchor'))
Exit: not('82d03690-092b-426c-941e-335d3e8a60f1' :animal_salvaje('Melchor'))
Exit: animal_domestico('Melchor')
X = 'Melchor'
```

Next 10 100 1,000 Stop

```
?- trace, (animal_domestico(X)).
```

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animal_salvaje(A):-leon(A).
animal_domestico(A):-perro(A),not(animal_salvaje(A)).
animal_domestico(A):-gato(A),not(animal_salvaje(A)).
```

```
X = 'Dulce'
   Redo: perro(_508)
   Exit: perro('Sol')
   Call: not(animal_salvaje('Sol'))
   Exit: not('82d03690-092b-426c-941e-335d3e8a60f1' :animal_salvaje('Sol'))
   Exit: animal_domestico('Sol')
X = 'Sol'
   Redo: animal_domestico(_508)
   Call: gato(_508)
   Exit: gato('Michi')
   Call: not(animal_salvaje('Michi'))
   Exit: not('82d03690-092b-426c-941e-335d3e8a60f1' :animal_salvaje('Michi'))
   Exit: animal_domestico('Michi')
X = 'Michi'
   Redo: gato(_508)
   Exit: gato('Kitty')
   Call: not(animal_salvaje('Kitty'))
   Exit: not('82d03690-092b-426c-941e-335d3e8a60f1' :animal_salvaje('Kitty'))
```

```
?- trace, (animal_domestico(X)).
```

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% hechos
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perro('Melchor').
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gato('Kitty').
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lince('lince2').
leon('leon1').
leon('leon2').
% reglas
/*uso de la negación en lugar del OR*/
animal_salvaje(A):-lince(A).
animal_salvaje(A):-leon(A).
animal_domestico(A):-perro(A),not(animal_salvaje(A)).
animal_domestico(A):-gato(A),not(animal_salvaje(A)).
```

```
Exit: animal_domestico('Melchor')
X = 'Melchor'
  Redo: perro(_508)
  Exit: perro('Dulce')
  Call: not(animal_salvaje('Dulce'))
  Exit: not('82d03690-092b-426c-941e-335d3e8a60f1' :animal_salvaje('Dulce'))
Exit: animal_domestico('Dulce')
X = 'Dulce'
  Redo: perro(_508)
  Exit: perro('Sol')
  Call: not(animal_salvaje('Sol'))
  Exit: not('82d03690-092b-426c-941e-335d3e8a60f1' :animal_salvaje('Sol'))
Exit: animal_domestico('Sol')
X = 'Sol'
Redo: animal_domestico(_508)
  Call: gato(_508)
  Exit: gato('Michi')
  Call: not(animal_salvaje('Michi'))
  Exit: not('82d03690-092b-426c-941e-335d3e8a60f1' :animal_salvaje('Michi'))
Exit: animal_domestico('Michi')
X = 'Michi'
  Redo: gato(_508)
  Exit: gato('Kitty')
  Call: not(animal_salvaje('Kitty'))
  Exit: not('82d03690-092b-426c-941e-335d3e8a60f1' :animal_salvaje('Kitty'))
Exit: animal_domestico('Kitty')
X = 'Kitty'
```

```
?- trace, (animal_domestico(X)).
```

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Program

```
1 suma([],0).
2 suma([H|T],Suma):-suma(T,S),Suma is H + S.
3
```

trace, (suma([1,2,3,4],X)).

```
Call: suma([1, 2, 3, 4],_4628)
Call: suma([2, 3, 4],_676)
Call: suma([3, 4],_678)
Call: suma([4],_686)
Call: suma([],_694)
Exit: suma([],0)
Call: _686 is 4+0
Exit: 4 is 4+0
Exit: suma([4],4)
Call: _672 is 3+4
Exit: 7 is 3+4
Exit: suma([3, 4],7)
Call: _670 is 2+7
Exit: 9 is 2+7
Exit: suma([2, 3, 4],9)
Call: _460 is 1+9
Exit: 10 is 1+9
Exit: suma([1, 2, 3, 4],10)
X = 10
```

```
?- trace, (suma([1,2,3,4],X)).
```

Uso de trace. swi-prolog desde PC

```
reydejuda@pegasus:~$ swipl
Welcome to SWI-Prolog (threaded, 64 bits, version 8.2.4)
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software.
Please run ?- license. for legal details.

For online help and background, visit https://www.swi-prolog.org
For built-in help, use ?- help(Topic). or ?- apropos(Word).

?- consult('/home/reydejuda/prolog/animales.pl').
true.

?- trace (animal_domestico(X)).
ERROR: Syntax error: Operator expected
ERROR: trace
ERROR: ** here **
ERROR:  (animal_domestico(X)) .
?- apropos(trace).
% SWI trace/0                          Start the tracer.
% LIB trace/1                          Equivalent to trace(Pred, +all).
% LIB trace/2                          Put a trace point on all predicates satisfying the predicate specification Pred.
% LIB gtrace/0                         Utility defined as guitracer,trace.
% SWI notrace/0                        Stop the tracer.
% SWI notrace/1                        Call Goal, but suspend the debugger while Goal is executing.
% LIB chr_trace/0                      Activate the CHR tracer.
% LIB guitracer/0                      This predicate installs the above-mentioned hooks that redirect tracing to the window-based environment.
% LIB chr_notrace/0                    Deactivate the CHR tracer.
% LIB noguitracer/0                    Disable the hooks installed by guitracer/0, reverting to normal text console-based tracing.
%   C 'PL_backtrace'()                 Dump a Prolog backtrace to the user_error stream.
%   C 'PL_backtrace_string'()          As PL_backtrace(), but returns the stack as a string.
% SWI catch_with_backtrace/3           As catch/3, but if library library(prolog_stack) is loaded and an exception of the shape error(Format, Context) is raised Context is extended with a bac ..
% LIB prolog_trace_interception/4      Dynamic predicate, normally not defined.
% LIB gdebug/0                         Utility defined as guitracer,debug.
% SWI tracing/0                        True if the tracer is currently switched on.
% LIB gspy/1                           Utility defined as guitracer,spy(Predicate).
% LIB tdebug/1                         Prepare ThreadId for debugging using the graphical tracer.
% LIB chr_leash/1                      Define the set of CHR ports on which the CHR tracer asks for user intervention (i.e.
% SEC tracehook                        Intercepting the Tracer
true.

?- trace.
true.
```

Uso de trace. swi-prolog desde PC

```
?- consult('/home/reydejuda/prolog/animales.pl').
true.

?- trace.
true.

[trace]  ?- animal_domestico('Dulce').
   Call: (10) animal_domestico('Dulce') ? creep
   Call: (11) perro('Dulce') ? creep
   Exit: (11) perro('Dulce') ? creep
^  Call: (11) not(animal_salvaje('Dulce')) ? creep
   Call: (12) animal_salvaje('Dulce') ? creep
   Call: (13) lince('Dulce') ? creep
   Fail: (13) lince('Dulce') ? creep
   Redo: (12) animal_salvaje('Dulce') ? creep
   Call: (13) leon('Dulce') ? creep
   Fail: (13) leon('Dulce') ? creep
   Fail: (12) animal_salvaje('Dulce') ? creep
^  Exit: (11) not(user:animal_salvaje('Dulce')) ? creep
   Exit: (10) animal_domestico('Dulce') ? creep
true .

[trace]  ?-
```

Uso de trace. swi-prolog desde PC

```
[trace]  ?- animal_salvaje(S).
   Call: (10) animal_salvaje(_16704) ? creep
   Call: (11) lince(_16704) ? creep
   Exit: (11) lince(lince1) ? creep
   Exit: (10) animal_salvaje(lince1) ? creep
S = lince1 ;
   Redo: (11) lince(_16704) ? creep
   Exit: (11) lince(lince2) ? creep
   Exit: (10) animal_salvaje(lince2) ? creep
S = lince2 ;
   Redo: (10) animal_salvaje(_16704) ? creep
   Call: (11) leon(_16704) ? creep
   Exit: (11) leon(leon1) ? creep
   Exit: (10) animal_salvaje(leon1) ? creep
S = leon1 ;
   Redo: (11) leon(_16704) ? creep
   Exit: (11) leon(leon2) ? creep
   Exit: (10) animal_salvaje(leon2) ? creep
S = leon2.

[trace]  ?-
```

Uso de trace. swi-prolog desde PC

```
?- consult('/home/reydejuda/prolog/sumaLista.pl').
true.

?- trace.
true.

[trace]  ?- suma([1,2,3,4],SumaLista).
   Call: (10) suma([1, 2, 3, 4], _8816) ? creep
   Call: (11) suma([2, 3, 4], _9280) ? creep
   Call: (12) suma([3, 4], _9324) ? creep
   Call: (13) suma([4], _9368) ? creep
   Call: (14) suma([], _9412) ? creep
   Exit: (14) suma([], 0) ? creep
   Call: (14) _9504 is 4+0 ? creep
   Exit: (14) 4 is 4+0 ? creep
   Exit: (13) suma([4], 4) ? creep
   Call: (13) _9642 is 3+4 ? creep
   Exit: (13) 7 is 3+4 ? creep
   Exit: (12) suma([3, 4], 7) ? creep
   Call: (12) _9780 is 2+7 ? creep
   Exit: (12) 9 is 2+7 ? creep
   Exit: (11) suma([2, 3, 4], 9) ? creep
   Call: (11) _8816 is 1+9 ? creep
   Exit: (11) 10 is 1+9 ? creep
   Exit: (10) suma([1, 2, 3, 4], 10) ? creep
SumaLista = 10.

[trace]  ?-
```