

1 –

insere três fatos

$q(a,b)$  - insere na database;

$q(1,2)$  - insere no final da database;

$q(\text{foo}, \text{blug})$  - insere no começo da database.

Banco de dados :

$q(\text{foo}, \text{blug})$ .

$q(a, b)$ .

$q(1, 2)$ .

Retira o  $q(1,2)$  e adiciona no final  $p(X) :- h(X)$

Banco de dados:

$q(\text{foo}, \text{blug})$ .

$q(a, b)$ .

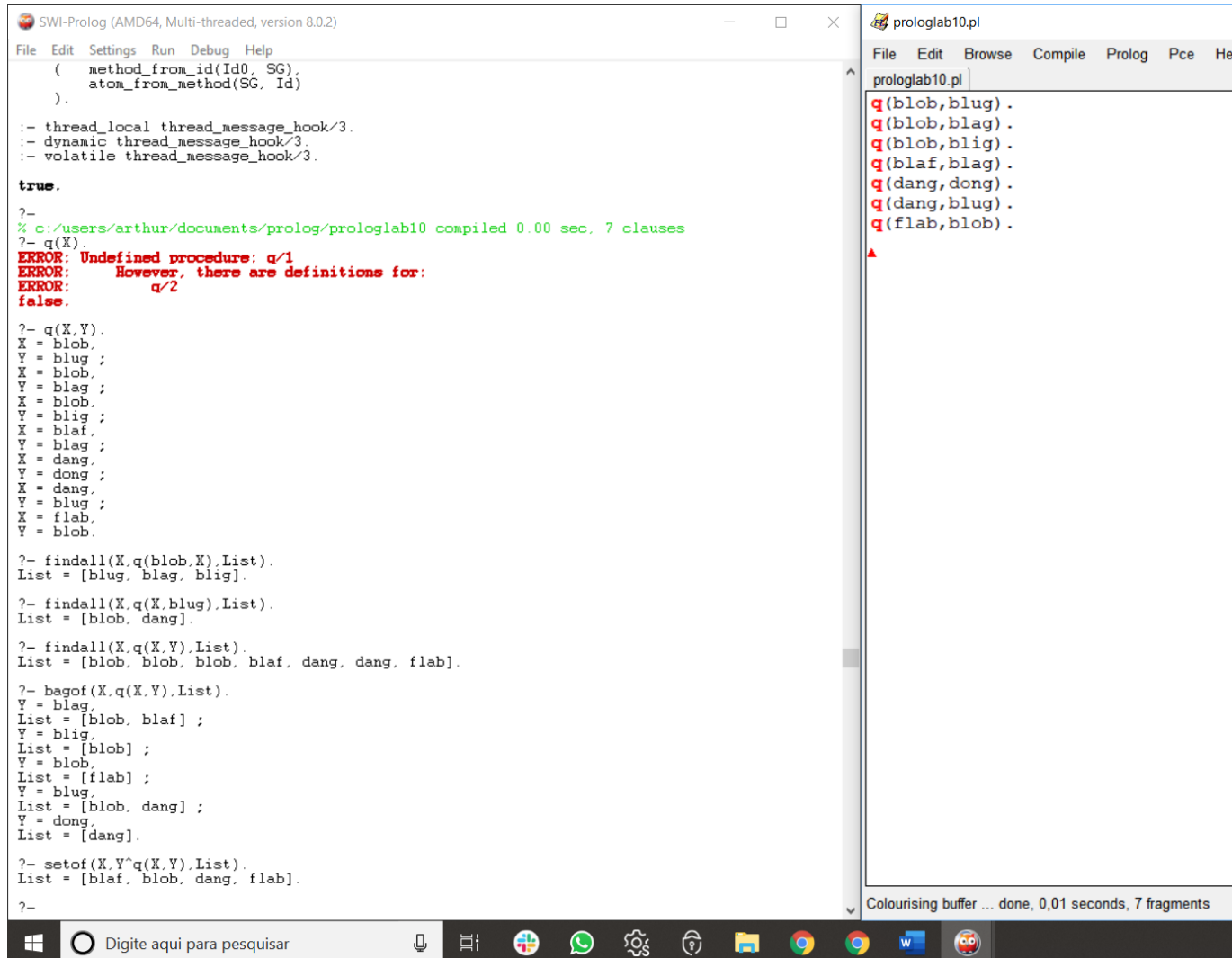
$p(A) :- h(A)$ .

Retira todos os fatos com  $q(\_)$ .

Banco de dados:

$p(A) :- h(A)$ .

2-



The screenshot shows the SWI-Prolog IDE (version 8.0.2) with a Prolog session in the main window and a source file editor on the right.

**SWI-Prolog Session:**

```
( method_from_id(Id0, SG),
  atom_from_method(SG, Id)
).
```

**Source File (prologlab10.pl):**

```
q(blob,blug).
q(blob,blag).
q(blob,blig).
q(blaf,blag).
q(dang,dong).
q(dang,blug).
q(flaf,blob).
```

**Prolog Session Output:**

```
?- thread_local thread_message_hook/3.
?- dynamic thread_message_hook/3.
?- volatile thread_message_hook/3.

true.
?-
% c:/users/arthur/documents/prolog/prologlab10 compiled 0.00 sec, 7 clauses
?- q(X).
ERROR: Undefined procedure: q/1
ERROR: However, there are definitions for:
ERROR:      q/2
false.

?- q(X,Y).
X = blob,
Y = blug ;
X = blob,
Y = blag ;
X = blob,
Y = blig ;
X = blaf,
Y = blag ;
X = dang,
Y = dong ;
X = dang,
Y = blug ;
X = flaf,
Y = blob.

?- findall(X,q(blob,X),List).
List = [blug, blag, blig].

?- findall(X,q(X,blug),List).
List = [blob, dang].

?- findall(X,q(X,Y),List).
List = [blob, blob, blob, blaf, dang, dang, flaf].

?- bagof(X,q(X,Y),List).
Y = blag,
List = [blob, blaf] ;
Y = blig,
List = [blob] ;
Y = blob,
List = [flaf] ;
Y = blug,
List = [blob, dang] ;
Y = dong,
List = [dang].

?- setof(X,Y^q(X,Y),List).
List = [blaf, blob, dang, flaf].

?-
```

The bottom of the image shows a Windows taskbar with various application icons and a search bar.

3 –

```
SWI-Prolog (AMD64, Multi-threaded, version 8.0.2)
File Edit Settings Run Debug Help
prolog_predicate_name(pce_principal:get_implementation(Id0, _, _, _), Id) :-
    pce_portray(
        ( method_from_id(Id0, SG),
          atom_from_method(SG, Id)
        )
    ).

:- dynamic sigmares/2.
sigmares(3, 6).
sigmares(2, 3).

:- thread_local thread_message_hook/3.
:- dynamic thread_message_hook/3.
:- volatile thread_message_hook/3.

true.
?- sigma(3,X).
X = 6.
?- listing.
mySigma(0, S, S) :-
    !.
mySigma(N, A, S) :-
    sigmares(N, S1),
    S is A+S1,
    !.
mySigma(N, A, S) :-
    DN is N-1,
    A1 is A+N,
    mySigma(DN, A1, S).

:- dynamic q/2.
q(blob, bug).
q(blob, blag).
q(blob, blig).
q(blaf, blag).
q(dang, dong).
q(dang, blug).
q(flaf, blob).

:- multifile url_path/2.

:- dynamic pce_post_expansion_hook/2.
:- multifile pce_post_expansion_hook/2.

:- multifile prolog_clause_name/2.
prolog_clause_name(Ref, Name) :-
    pce_portray(
        ( clause(Head, _, Ref),
          user:prolog_predicate_name(Head, Name)
        )
    ).

sigma(N, S) :-
    mySigma(N, 0, S).
```

```
prologlab10.pl [modified]
File Edit Browse Compile Prolog Pce Help
prologlab10.pl [modified]
q(blob,bug).
q(blob,blag).
q(blob,blig).
q(blaf,blag).
q(dang,dong).
q(dang,blug).
q(flaf,blob).

mySigma(0, S, S) :- !.
mySigma(N, A, S) :-
    sigmares(N, S1),
    S is A + S1,
    !.
mySigma(N, A, S) :-
    is(DN, -(N, 1)),
    is(A1, +(A, N)),
    mySigma(DN, A1, S).

:- dynamic sigmares/2.
sigma(N, S) :- sigmares(N, S), !.
sigma(N, S) :- mySigma(N, 0, S),
    assert( sigmares(N, S) ).
```

Colourising buffer ... done, 0.01 seconds, 58 fragments

