

## Exercício 1 -

SWI-Prolog (AMD64, Multi-threaded, version 8.0.2)

```
File Edit Settings Run Debug Help
Welcome to SWI-Prolog (threaded, 64 bits, version 8.0.2)
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software.
Please run ?- license. for legal details.

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

?-
% c:/users/arthur/documents/prolog/prologlab2 compiled 0.00 sec, 0 clauses
?- magic(house_elf).
ERROR: Undefined procedure: wizard/1
ERROR: In:
ERROR:   [9] wizard(house_elf)
ERROR:   [8] magic(house_elf) at c:/users/arthur/documents/prolog/prologlab2.pl:6
ERROR:   [7] <user>
Exception: (9) wizard(house_elf) ? creep
Exception: (8) magic(house_elf) ? creep
?- wizard(harry).
ERROR: Undefined procedure: wizard/1 (DWIM could not correct goal)
?- magic(wizard).
ERROR: Undefined procedure: wizard/1
ERROR: In:
ERROR:   [9] wizard(wizard)
ERROR:   [8] magic(wizard) at c:/users/arthur/documents/prolog/prologlab2.pl:6
ERROR:   [7] <user>
Exception: (9) wizard(wizard) ? creep
Exception: (8) magic(wizard) ? creep
?- magic('McGonagall').
ERROR: Syntax error: Operator expected
ERROR: magic(
ERROR: ** here **
ERROR: 'McGonagall') .
?- magic(Hermione).
Hermione = dobbey ;
ERROR: Undefined procedure: wizard/1
ERROR: In:
ERROR:   [9] wizard(_4012)
ERROR:   [8] magic(_4036) at c:/users/arthur/documents/prolog/prologlab2.pl:6
ERROR:   [7] <user>
Exception: (9) wizard(_3402) ? Unknown option (h for help)
Exception: (9) wizard(_3402) ? creep
Exception: (8) magic(_3402) ? creep
?-
```

prologlab2.pl

```
File Edit Browse Compile Prolog Pce Help
prologlab2.pl
house_elf(dobby).
witch(hermione).
witch('McGonagall').
witch(rita_skeeter).
magic(X):- house_elf(X).
magic(X):- wizard(X).
magic(X):- witch(X).
```

A única consulta satisfeita é a última "magic(Hermione)" pois na linha "magic(X):- wizard(X)" o wizard não está instanciado nas regras, causando erro ao ser pesquisado.

Uma forma de resolver o problema seria a retirada da linha ( magic(X):- wizard(X) ), assim as linhas "magic('McGonagall')" e "magic(Hermione)" seriam satisfeitas .

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```
?-
% c:/users/arthur/documents/prolog/prologlab2 compiled 0.00 sec, 0 clauses
?- magic(house_elf).
false.

?- wizard(harry).
ERROR: Undefined procedure: wizard/1 (DWIM could not correct goal)
?- magic(wizard).
false.

?- magic('McGonagall').
true.

?- magic(Hermione).
Hermione = dobbly ;
Hermione = hermione ;
Hermione = 'McGonagall' ;
Hermione = rita_skeeter.

?-
```

prologlab2.pl

File Edit Browse Compile Prolog Pce Help

prologlab2.pl

```
house_elf(dobby).
witch(hermione).
witch('McGonagall').
witch(rita_skeeter).
magic(X):- house_elf(X).
magic(X):- witch(X).
```

Windows 10 taskbar with search bar and various icons.

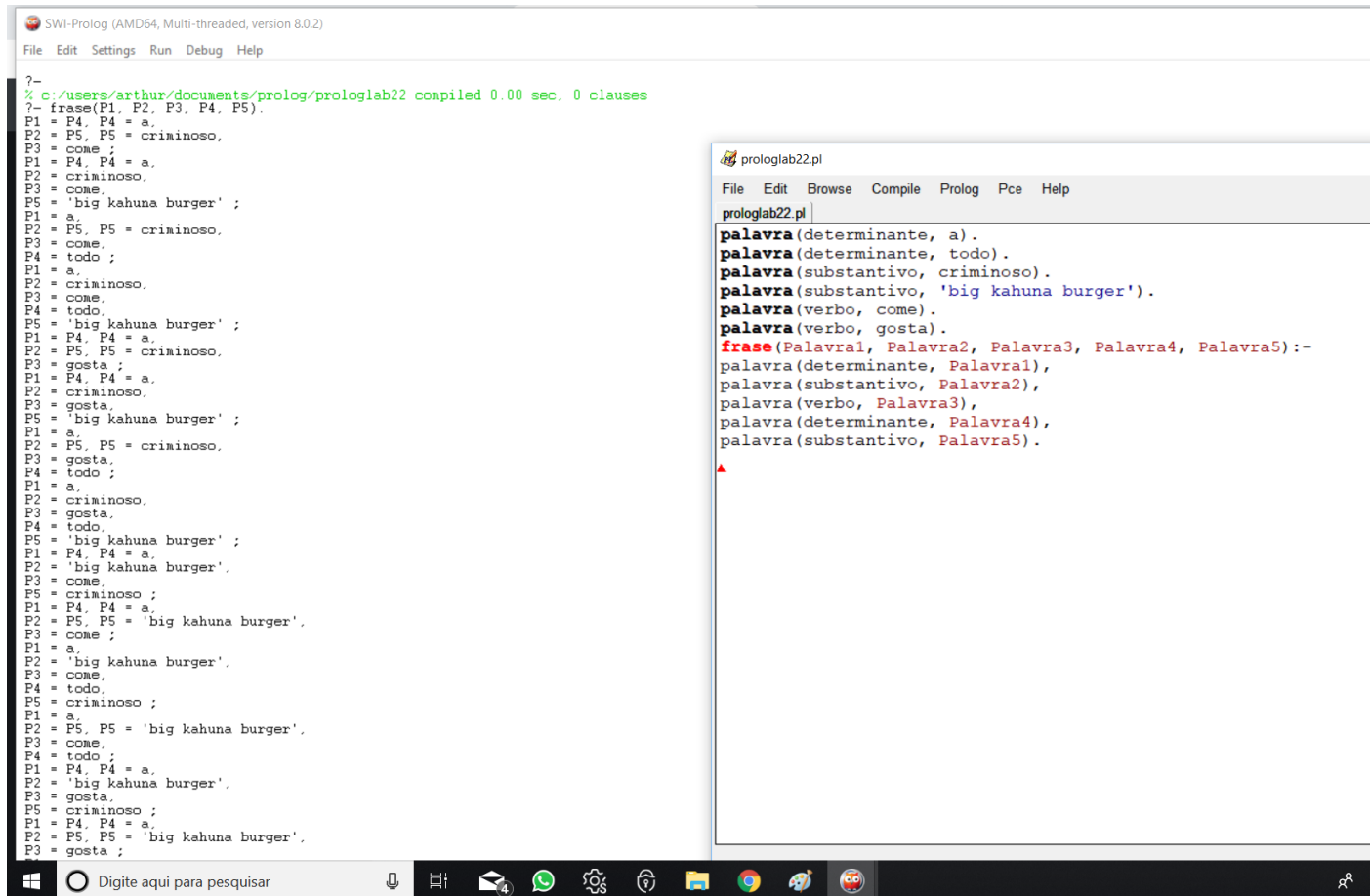
Agora, a primeira pesquisa é false pois house\_elf não é implementado devidamente, o certo seria magic(dobby).

Na segunda pesquisa o erro existe, pois, wizard não foi instanciado.

Na terceira o wizard não está contido em magic.

Na última, o Prolog entende que Hermione é uma variável (pois o H está em maiúsculo), e assim ele associa todos possíveis magic com a "Hermione".

## Exercício 2 -

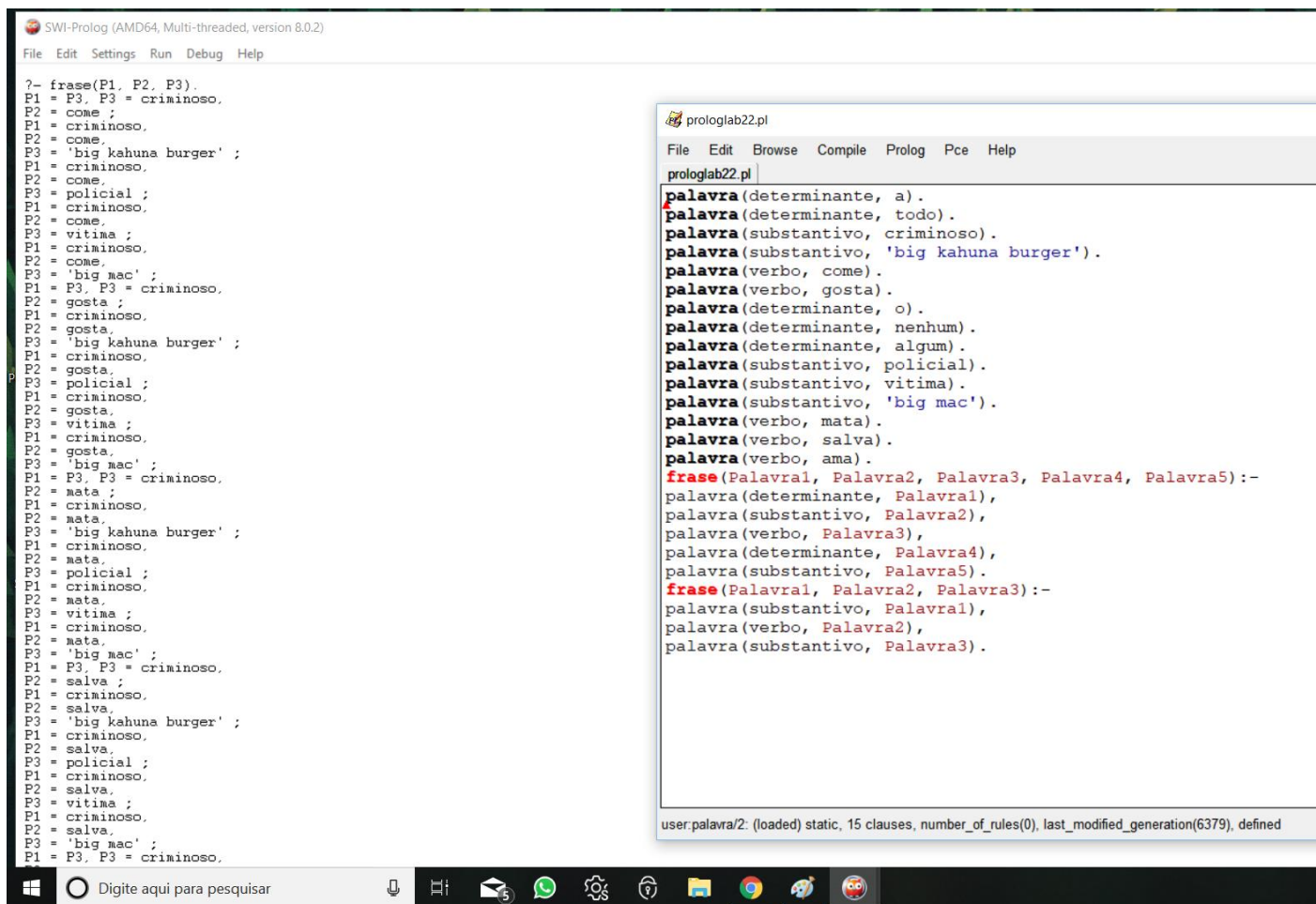


The screenshot displays a Prolog environment with two windows. The main window, titled "SWI-Prolog (AMD64, Multi-threaded, version 8.0.2)", shows a Prolog program with several clauses. The program defines a predicate `frase` and a list of words. The second window, titled "prologlab22.pl", shows the execution of the program, displaying the results of the `frase` predicate.

```
?-
% c:/users/arthur/documents/prolog/prologlab22 compiled 0.00 sec, 0 clauses
?- frase(P1, P2, P3, P4, P5).
P1 = P4, P4 = a,
P2 = P5, P5 = criminoso,
P3 = come,
P1 = P4, P4 = a,
P2 = criminoso,
P3 = come,
P5 = 'big kahuna burger' ;
P1 = a,
P2 = P5, P5 = criminoso,
P3 = come,
P4 = todo ;
P1 = a,
P2 = criminoso,
P3 = come,
P4 = todo,
P5 = 'big kahuna burger' ;
P1 = P4, P4 = a,
P2 = P5, P5 = criminoso,
P3 = gosta ;
P1 = P4, P4 = a,
P2 = criminoso,
P3 = gosta,
P5 = 'big kahuna burger' ;
P1 = a,
P2 = P5, P5 = criminoso,
P3 = gosta,
P4 = todo ;
P1 = a,
P2 = criminoso,
P3 = gosta,
P4 = todo,
P5 = 'big kahuna burger' ;
P1 = P4, P4 = a,
P2 = 'big kahuna burger',
P3 = come,
P5 = criminoso ;
P1 = P4, P4 = a,
P2 = P5, P5 = 'big kahuna burger',
P3 = come ;
P1 = a,
P2 = 'big kahuna burger',
P3 = come,
P4 = todo,
P5 = criminoso ;
P1 = a,
P2 = P5, P5 = 'big kahuna burger',
P3 = come,
P4 = todo ;
P1 = P4, P4 = a,
P2 = 'big kahuna burger',
P3 = gosta,
P5 = criminoso ;
P1 = P4, P4 = a,
P2 = P5, P5 = 'big kahuna burger',
P3 = gosta ;
```

```
prologlab22.pl
File Edit Browse Compile Prolog Pce Help
prologlab22.pl
palavra(determinante, a).
palavra(determinante, todo).
palavra(substantivo, criminoso).
palavra(substantivo, 'big kahuna burger').
palavra(verbo, come).
palavra(verbo, gosta).
frase(Palavra1, Palavra2, Palavra3, Palavra4, Palavra5):-
palavra(determinante, Palavra1),
palavra(substantivo, Palavra2),
palavra(verbo, Palavra3),
palavra(determinante, Palavra4),
palavra(substantivo, Palavra5).
```

A pergunta é " frase (P1, P2, P3, P4, P5). ".



As novas frases são:

- “ palavra(determinante, o).
- palavra(determinante, nenhum).
- palavra(determinante, algum).
- palavra(substantivo, policial).
- palavra(substantivo, vitima).
- palavra(substantivo, 'big mac').
- palavra(verbo, mata).
- palavra(verbo, salva).
- palavra(verbo, ama). “

E a nova regra é:

frase(Palavra1, Palavra2, Palavra3):-

palavra(substantivo, Palavra1),

palavra(verbo, Palavra2),

palavra(substantivo, Palavra3).

A nova pergunta é: "frase(P1, P2, P3).".

Link das imagens:

EX1: <https://imgur.com/a/Ac2mMOD>

EX2: <https://imgur.com/a/QASWbUv>