Prolog : Preliminaries

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Me in a nutshell

- PhD Student in computer science ;
- Main research : Transfer learning for deep reinforcement learning ;
- `http://www.montefiore.ulg.ac.be/~saittahar/`

Practical informations

- Format : Project presentations, with homeworks in a "two-weekly" basis.
- Mail subject pattern for homeworks : *Lastname_ Firstname* Homework *N* ,
- When attaching a bonus step to the homework, append [Bonus] to the subject.

Prolog : A quick reminder

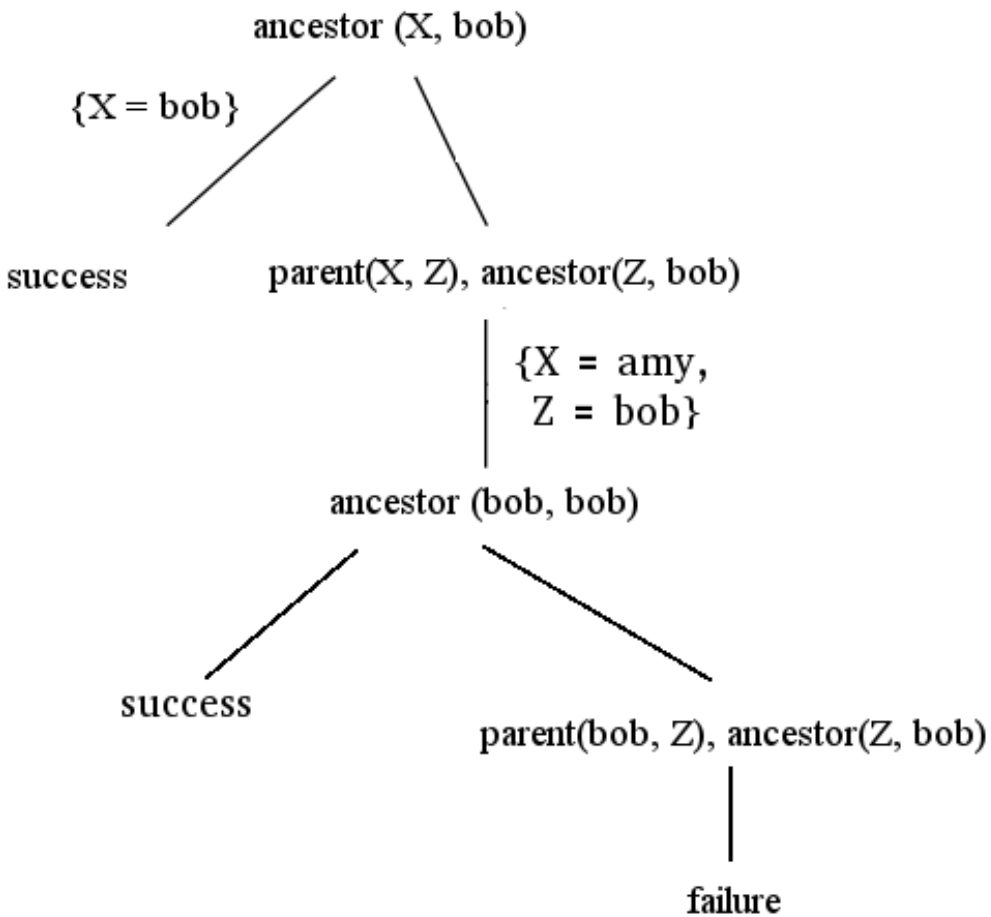
- A fact is a logical statement, represented by a first-order logical predicate ;
- Top-down searching algorithm through a given database of facts and predicates ;
- Tries to unify variables with possible values through nodes ;
- Goes backward when either unification fails or succeed ;
- Pro : enumerates all possible solutions ;
- /!\ Even if logically equivalent, order of facts often matters for computational efficiency !

Example 1 - Facts

```
ancestor(X,X).
ancestor(X,Y) :- parent(X,Z), ancestor(Z,Y).
parent(amy,bob).
```

Tree Search (Example 1)

ancestor(X, bob).



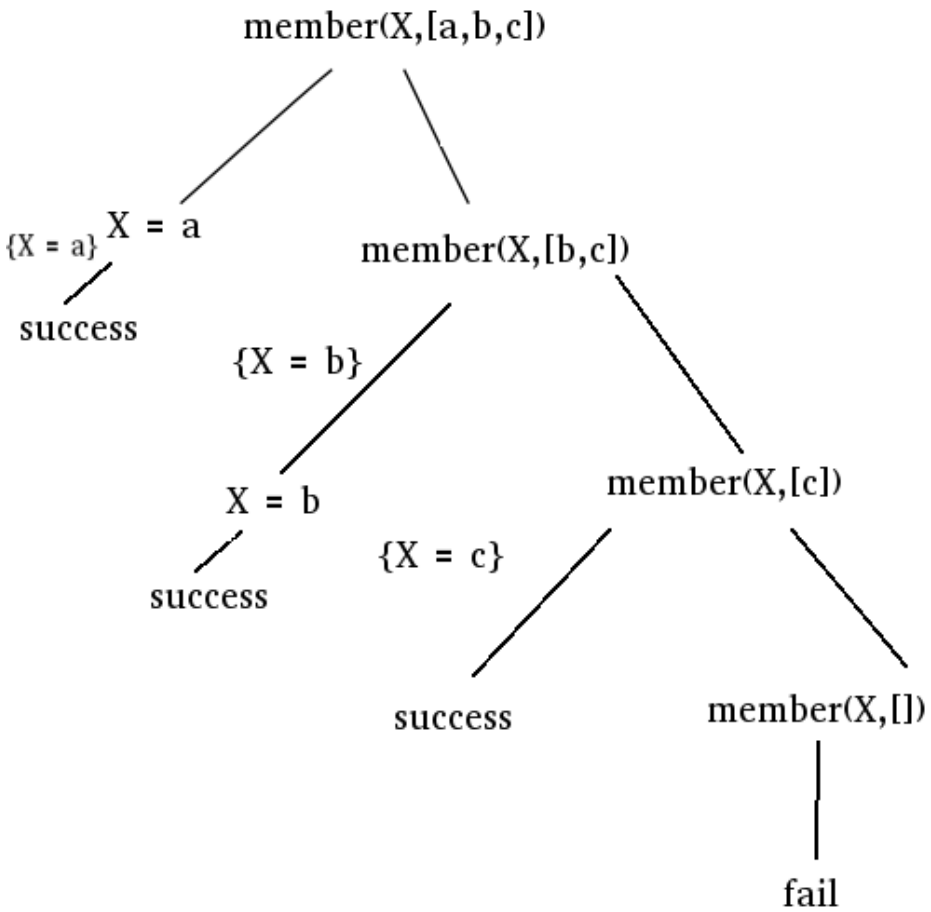
Example 2 - Lists

Member of a list :

```
member(X,[X|LX]).
member(X,[Y|LX]) :- member(X,LX).
```

Tree Search [Example 2]

member (X , [a , b , c]) .



Training time !

Some exercices are available in the documents at your disposal.
Go through them and good luck :)