

Concepts of programming languages

Prolog

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Take this simple knowledge base:

`bar(a).`

`bar(b).`

`baz(a).`

`baz(b).`

`foo(X, Y) :- bar(X), baz(Y).`

which translates to the tree:

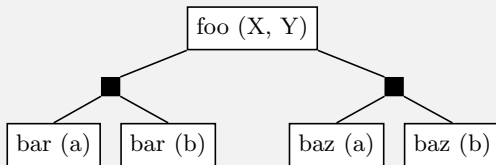


Figure 1: Branches of `foo(X, Y)`

Cut 2

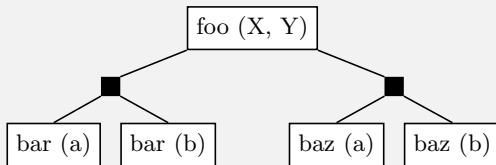


Figure 2: Branches of $\text{foo}(X, Y)$

Querying ' $\text{foo}(X, Y)$ ' gives the result:

$(X, Y) = \{(a, a), (a, b), (b, a), (b, b)\}$

But what if you would only like to get a partial result? Use a cut!



Cut 3

A cut is an atom '!' that can be used to

```
foo(X, Y) :- bar(X), !, baz(Y).
```

The query 'foo(X, Y)' now given the results: (

X = Y, Y = a ; X = a, Y = b.

