$p(a)$

and the query

$p(X) \rightarrow$

The answer yes is correct but not satisfactory. It resembles the joke where you are asked, "Do you know what time it is?" and you look at your watch and answer "yes." In our example, the appropriate answer is a substitution

$\{X/a\}$

which gives an instantiation for X, making the answer positive. The constant a is called a *ground witness*. Given the facts

$p(a)$

$p(b)$

there are two ground witnesses to the same query: a and b. Or equivalently, we should return the substitutions:

$\{X/a\}$

$\{X/b\}$

While valuable, ground witnesses are not always the optimal answer. Consider the logic program

$add(X, 0, X)$

$add(X, Y, Z) \rightarrow add(X, s(Y), s(Z))$

This program computes addition, if we read s as the "successor function," which returns as value the value of its argument plus 1. The third argument of add computes the sum of its first two arguments. Consider the query