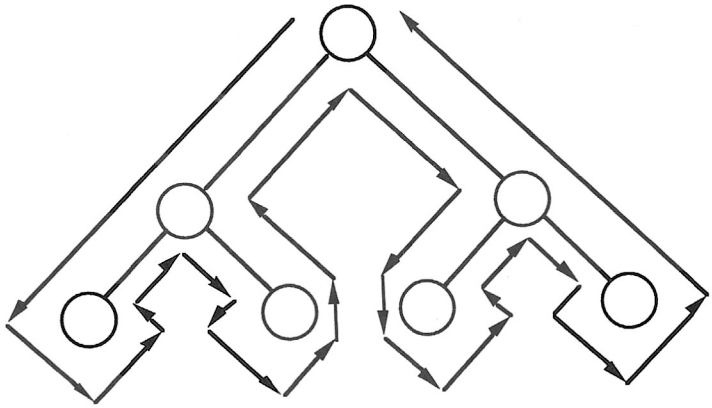
```
(3) parent(ann,mary).
(4) parent(ann,susan).
(5) parent(mary,bob).
(6) parent(susan,john).
```

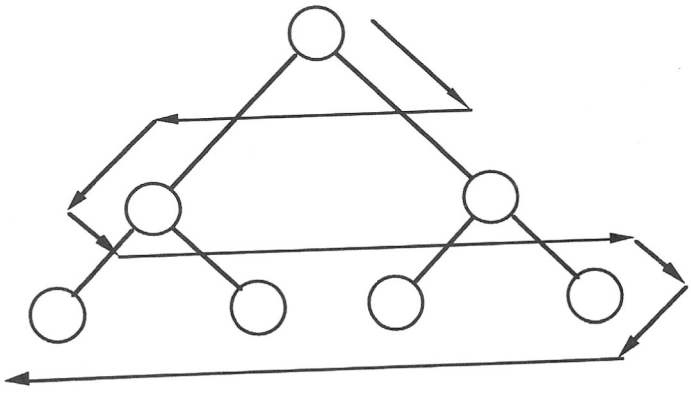
Now suppose PROLOG is queried to determine whether Ann is the ancestor of Susan

```
:-ancestor(ann,susan).
```

where the absence of a head indicates a **query**, which is a condition to be proved by PROLOG. Facts, rules, and queries are the three types of Horn clauses of PROLOG. A condition can be proved if it is the conclusion of an instance of a clause. Of course, the clause itself must be provable, which is done by proving the conditions of the clause.



(a) Depth-first Search



(b) Breadth-first Search

Figure 2.7 Depth-first and Breadth-first Searches for an Arbitrary Tree