Section 4.4 Search in Partially Observable Environments

Figure 4.15 Two examples of transitions in local-sensing vacuum worlds. (a) In the deterministic world, *Right* is applied in the initial belief state, resulting in a new predicted belief state with two possible physical states; for those states, the possible percepts are [*R, Dirty*] and [*R, Clean*], leading to two belief states, each of which is a singleton. (b) In the slippery world, *Right* is applied in the initial belief state, giving a new belief state with four physical states; for those states, the possible percepts are [*R, Dirty*], [*L, Dirty*], and [*R, Clean*], leading to three belief states as shown.

Figure 4.16 The first level of the AND–OR search tree for a problem in the local-sensing vacuum world; *Suck* is the first action in the solution.