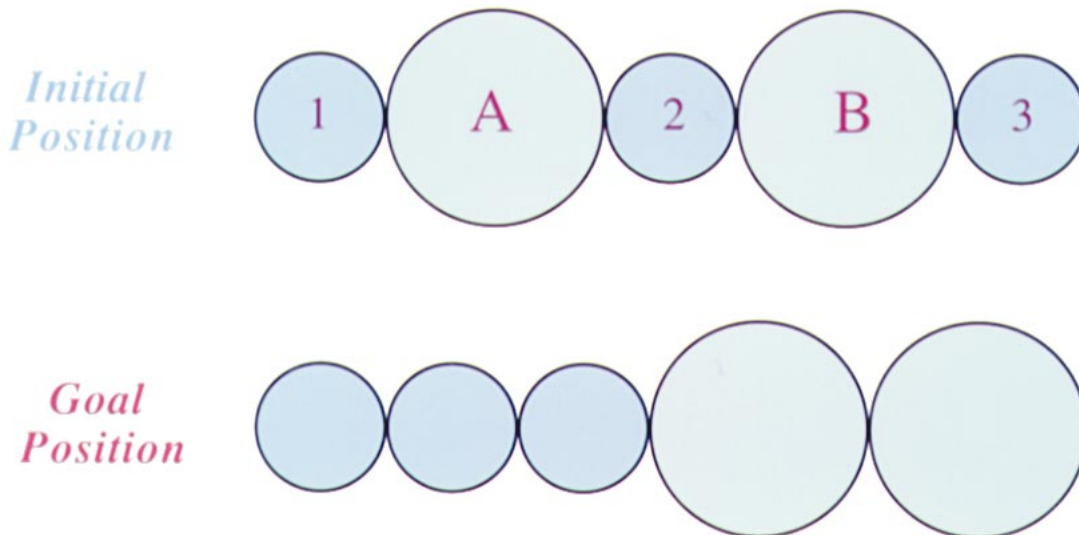


The Dimes and the Quarters

Problem-of-the-Week

The Problem

Three dimes and two quarters are placed in a row, with the dimes and the quarters alternating. Describe a way to transform the initial position into the goal position. In each move, you must relocate an adjacent dime and quarter as a single unit. You are not allowed to reverse the coins; for example, if you move the pair 2-B, the dime must stay to the left of the quarter.



Strategies and Hints

1. Why is it helpful to mark the coins as shown in the initial position?
2. It is easier to solve this problem by working backwards. This is because there are a great many possible moves you can make from the initial position. But, starting with the goal position, there are only two possible moves. Describe these moves.
3. During a move, you may place a pair in a detached position. For example, you may pick up 1-A and move it to the far right of coin 3, leaving an empty space.