

This puzzle was described by Edouard Lucas at the end of the 19th century.
Place three quarters and three pennies in a line of seven cells as shown in the left illustration - quarters on the left, and pennies on the right. The middle cell is empty.

Now interchange two groups of coins moving quarters to the right and pennies to the left. The middle cell has to be empty when you finish.

Coins are moved just in a forward direction. This means you have to move quarters to the right and pennies to the left only. A move consists of moving a coin on the adjacent vacant cell, or jumping over an adjacent coin on the vacant cell immediately behind it.

$5-4,3-5,2-3,4-2,6-4$,
$7-6,5-7,3-5,1-3,2-1$,
$4-2,6-4,5-6,3-5,4-3$.

The minimum possible number of moves for this puzzle is 15 . One of possible solutions is given on the left. In the solution the numbers correspond to the board's cells. Every move is shown as two numbers - start and finish cells.

