## Sliding Eight 2


a．k．a．Sliding Eight II
Made by Minory Abe，circa 1985.
（wood $2+13 / 16^{\prime \prime} \times 7+7 / 16^{\prime \prime} \times 7 / 8^{\prime \prime}$ with 10 pieces and a keeper piece； tray itself is $5 / 8^{\prime \prime}$ high，numbers are $3 / 4^{\prime \prime}$ square by $9 / 16^{\prime \prime}$ thick；sleeve made by J．A．Storer）
Two long pieces can slide left or right to shift the numbers contained in each of their four slots． A number can move from the slot of one to an empty slot of the other or from the leftmost or rightmost slot of one to after the right or left of the other．The problem is to reverse the numbers：


The following page outlines a solution of 124 moves．

## Sliding Eight Solution, 124 Moves

Call the upper long piece $X$ and the lower one $Y$. Solving may move 4 out of the left slot of $X$ to the left of $Y$ so that $Y$ is "locked" from moving and the leftmost slot of $X$ is empty at Step 4:


Next a " $X$ round" alternates a move of $X$ and with the only legal move of a number between a slot of $X$ and $Y$ until the rightmost slot of $X$ is empty at Step 15:


Next, after moving 1 and 4 up, $X$ is locked, and a " $Y$ round" alternates a move of $Y$ with the only legal move of a number between a slot of $X$ and $Y$ until the leftmost slot of $Y$ empty at Step 30:


Next, move 4 down, $X$ left, $Y$ right, and 2 up, so $X$ is again locked and now a $Y$ round leaves the leftmost slot of $Y$ empty, and 7 and 2 move down to leave the leftmost slot of $X$ empty at Step 49:


Continue with an $X$ round to step 64 , another $X$ round to step 74 , some small $X$ and $Y$ rounds to Step 83, a $Y$ round to Step 92, some manipulations to Step 96, a $Y$ round to step 107, two moves to start new $X$ round at step 109, a $X$ round to Step 120, and moves to finish at Step 124:


