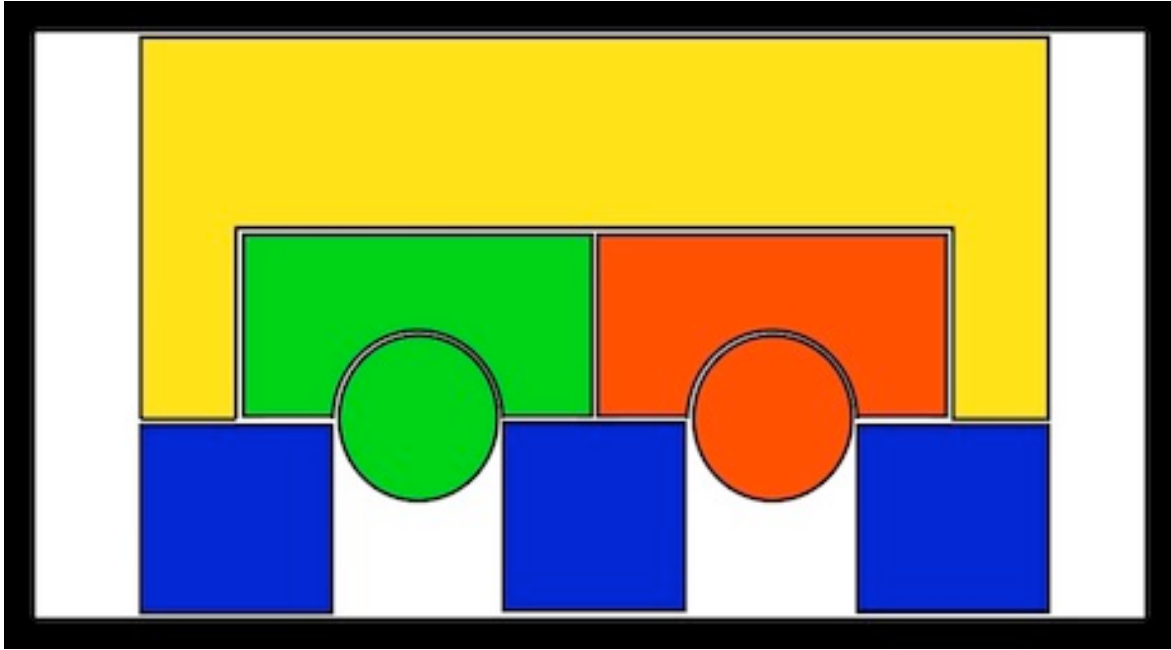


Sliding Three Square



Adapted from the Sliding Three puzzle, J. A. Storer, 2020.

Planned construction for 3d print, 2.7" x 4.7" x 3/8" thick, with cardboard sleeve.

A variation of the *Sliding Three* puzzle where all interior and exterior rounds have been eliminated, except for the two discs.

The start is a large piece containing two U-shaped pieces, each covering half a disc, with along the bottom three square pieces. The discs and squares are all 2 units high and wide, the U-pieces are 2 units high by 4 units wide, the big piece is 4 units high by 10 units wide, and the tray interior is 6 units high by 12 units wide.

Problem 1:

Exchange the discs. A solution that is identical to a Part 1 solution for the *Sliding Three* puzzle of 34 rectilinear moves (43 straight-line moves) is shown on the following page.

Problem 2:

Exchange the two U-pieces. A 40 rectilinear moves (54 straight-line moves) solution is shown on the following pages.

Problem 3:

The combination of Problems 1 and 2 to *exchange both the U-pieces and the discs.*

It can be done in two steps by first solving Problem 1 and then Problem 2; the following pages show a shorter combined solution of 52 rectilinear moves (66 straight-line moves).

All three solutions have some steps that involve moving the big piece while containing other pieces, and can be performed by pushing with a single finger on one of the pieces.

Sliding Three Square Problem 3 Solution, Steps 0 - 35

step 0: XXXXX XXXXX XAAAABBBB XAaaABbbB LLaaMMbbRR LLMMRR	step 1: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLMMbbRR	step 2: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLMMbbRR	step 3: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR
step 4: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR	step 5: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR	step 6: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR	step 7: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR
step 8: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR	step 9: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR	step 10: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR	step 11: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR
step 12: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR	step 13: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR	step 14: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR	step 15: XXXXX XXXXX XAAAABBBB XAaaABBB LLaaMMbbRR LLaaMMbbRR
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Sliding Three Square Problem 3 Solution, Steps 36 - 52

<p>step 36:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X M M A A A A X b b X M M A A X B B B B a a R R B B a a R R</pre>	<p>step 37:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X M M A A A A X b b X M M A A X B B B B a a R R B B a a R R</pre>	<p>step 38:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X M M A A A A R R X b b X M M A A R R X B B B B a a B B a a</pre>	<p>step 39:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X M M A A A A R R X b b X M M A A R R X B B B B a a B B a a</pre>
<p>step 40:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X M M A A A A R R X b b X M M A A R R X B B B B a a B B a a</pre>	<p>step 41:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X A A A A R R X b b X A A R R X M M B B B B a a M M B B a a</pre>	<p>step 42:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X A A A A R R X b b X A A R R X M M B B B B a a M M B B a a</pre>	<p>step 43:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X A A A A R R X b b X A A R R X M M B B B B a a M M B B a a</pre>
<p>step 44:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X A A A A X b b X A A X M M B B B B a a R R M M B B a a R R</pre>	<p>step 45:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X A A A A X b b X A A X M M B B B B a a R R M M B B a a R R</pre>	<p>step 46:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X B B B B A A A A X b b X B B A A X M M a a R R M M a a R R</pre>	<p>step 47:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X b b X B B B B A A A A X b b X B B A A X M M a a R R M M a a R R</pre>
<p>step 48:</p> <pre>L L X X X X X X X X X X L L X X X X X X X X X X X B B B B A A A A X X B B A A X b b M M a a R R b b M M a a R R</pre>	<p>step 49:</p> <pre> X X X X X X X X X X X X X X X X X X X X X B B B B A A A A X X B B A A X L L b b M M a a R R L L b b M M a a R R</pre>	<p>step 50:</p> <pre> X X X X X X X X X X X X X X X X X X X X X B B B B A A A A X X B B A A X L L b b M M a a R R L L b b M M a a R R</pre>	<p>step 51:</p> <pre> X X X X X X X X X X X X X X X X X X X X X B B B B A A A A X X B B A a a A X L L b b M M a a R R L L b b M M R R</pre>
<p>step 52:</p> <pre> X X X X X X X X X X X X X X X X X X X X X B B B B A A A A X X B b b B A a a A X L L b b M M a a R R L L M M R R</pre>			