

## Stacking Jack



### Act I

Jack can be built in different ways.

He has six different parts that can be stacked in different orders.

There are 6 ways that you could choose the part to be on the bottom.

After that piece has been chosen, there are only 5 pieces left to choose for his second piece.

Once those two pieces have been chosen, there are only 4 pieces to choose for his next piece.

Then only 3 pieces ... then only 2 pieces ... and finally only one piece left to put right under his head.

The number of way to build Jack is  $6 * 5 * 4 * 3 * 2 * 1 = 6! = 720$  ways