## Jenga Solution

Puzzle: Yannick Yao Solution: Yannick Yao Answer: LIMITLESS

The puzzle begins with an illustration of a tower with Jenga blocks, followed by all 54 pieces of Jenga blocks, each of which has a clue on the top and a clue on the bottom, with a fixed orientation. It is not difficult to discover that all of these clues correspond to three-letter words or acronyms. The answer to all these clues can be found here: <a href="https://docs.google.com/spreadsheets/d/1vi-WQS5dSQ2aaTzKII7kQv7BOspH">https://docs.google.com/spreadsheets/d/1vi-WQS5dSQ2aaTzKII7kQv7BOspH</a> NfOJA <a href="https://docs.google.com/spreadsheets/d/1vi-WQS5dSQ2aaTzKII7kQv7BOspH</a> NfOJA <a href="https://docs.google.com/spreadsh

Once all the clues are found, the next step is to assemble the tower. Since the Jenga tower follows a 3 by 3 structure, it makes sense to intuit that a single level (between two layer of blocks) must form a 3 by 3 word grid, with 3 words spelled in one direction on the top of the lower layer, and 3 other words spelled in another direction on the bottom of the upper layer, such that whenever two blocks touch the corresponding letters are the same. Ambiguities are resolved by the arrows on the tower illustration (indicating that the words are orientated so the first letter is the furthest from the point of view) and the instruction that no blocks may be rotated in any way. There are some uncommon letters like Q or X, which can help us get started in placing all the pieces.

After the tower is built, we will need to follow the rules of Jenga to remove blocks from the tower and place them on the top. According to the official rules, each layer must be completed before starting a new layer, and all layers must be orthogonal to the one below. The rules of matching letters and no rotation still apply here, implied by the fact that the topmost three words of the starting tower when read in the other direction are already present in the tower.

This "game" goes on for six more layers (where all block removals are safe under reasonable play), and then no more blocks can be placed with all matching letters. At this point the answer can be read off directly from the top: **LIMITLESS**, a small reference to the phrase "the sky is the limit", and the irony that Jenga is ultimately a limited game (in terms of maximal height, obviously no more than 54 layers).