

Diagram illustrating the structure of a 6-card deck (1-4-3-2-5-6) and its various permutations and combinations, showing the relationships between different card sets and their corresponding permutations.

The diagram is organized into three main sections, each representing a different level of complexity or a different set of cards:

- Top Section (6-card deck):** Shows the root permutation 1-4-3-2-5-6. Below it, four permutations are listed: 6-5, 5-4, 3-2, and 5-4. These are connected by lines to the root permutation.
- Middle Section (5-card deck):** Shows the root permutation 1-4-3-2-5-6. Below it, four permutations are listed: 1-2, 3-2, 3-2, and 4-3. These are connected by lines to the root permutation.
- Bottom Section (4-card deck):** Shows the root permutation 1-2-3-4-5-6. Below it, four permutations are listed: 4-3, 4-3, 6-5, and 6-5. These are connected by lines to the root permutation.

The diagram uses a hierarchical structure to show the relationships between different card sets and their corresponding permutations. The root permutation is at the top, and the permutations below it are connected by lines, indicating their relationship to the root. The permutations are labeled with numbers 1 through 6, representing the cards in the deck.