Robinson-Schensted Correspondence and Standard Young Tableaux

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The purpose of this paper is to express Robinson-Schensted correspondence in two different ways, Schensted’s algorithm and a geometric interpretation by Viennot, and compare and prove different methods to determine the number of Standard Young Tableaux of a specific shape. The first part of the project is a literature study on the correspondence, where the majority of the sources are scientific articles. The second part consists of proofs for the Hook Length Formula for some shapes of Standard Young tableaux. Furthermore, I developed an alternative way to calculate the number of Standard Young Tableaux with two rows, which is presented in the paper. The conclusion is that the different methods to describe Robinson Schensted’s correspondence are similar but expressed differently and Schensted’s algorithm is easier to understand. The Hook Length Formula is easy to use and generalized for all shapes of Standard Young Tableaux, while the method I developed is limited to two rows. However, the Hook Length Formula is considerably more difficult to prove compared to the method I have developed.

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