Dynamical Algebraic Combinatorics notes [outline]
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Chapter 0. Introduction

- §0.1 Philosophy of DAC
- §0.2 The basic examples: rotation of subsets and multisets
- §0.3 Overview of rest of notes

Chapter 1. Tableaux

- §1.1 Young diagrams, semistandard Young tableaux, Gelfand-Tsetlin patterns
- §1.2 Bender-Knuth involutions, promotion, evacuation
- §1.3 Jeu de taquin; promotion and evacuation again
- §1.4 Knuth equivalence
- §1.5 Proof (using evacuation & jdt) that promotion of rectangular SSYTs has order n
- §1.6 Standard tableaux
- §1.7 Models for promotion of 2- and 3-rowed SYT promotion

Chapter 2. Posets

- §2.1 Basics about posets
- §2.2 Linear extensions, promotion and evacuation
- §2.3 The rectangle redux; embedding (linear ext's of) the two triangles into the rectangle
- §2.4 Order ideals, rowmotion, toggles
- §2.5 P-partitions, piecewise linear toggles and rowmotion
- §2.6 Conjugacy of rect. promotion & rowmotion (via GT pat's)
- §2.7 The Stanley–Thomas word and more triangle embeddings
- §2.8 The order polytope and PL maps

Chapter 3. Coxeter groups and root systems

- §3.1 Basics about Coxeter groups and root systems
- §3.2 The symmetric group (Type A) in detail
- §3.3 Root posets
- §3.4 Reduced words and the Edelman–Greene bijection (in Type A)
- §3.5 Absolute order and the Armstrong–Stump–Thomas bijection (in Type A)
- §3.6 Parabolic quotients
- §3.7 Minuscule posets
- §3.8 Toggling as reflection for minuscule posets (à la Rush–Shi)

Chapter 4. Cyclic sieving

- §4.1 Definition and basics of cyclic sieving

Chapter 5. Invariance and homomesy

Appendix A. The RSK correspondence

Appendix B. Birational dynamics

Appendix C. Beyond distributive lattices