

# *Hasse diagrams and other representation-theoretic preliminaries for BGG*

Dennis The (ANU)

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## **Abstract:**

This is the first in a series of talks devoted to Bernstein-Bernstein-Gelfand (BGG) sequences. In this talk, I'll go over various representation-theoretic preliminaries: roots and weights, Dynkin diagrams, parabolic subalgebras, the Weyl group, and leading up to the recipe for generating the Hasse diagram associated to any generalized flag variety  $G/P$ . The Hasse diagram of  $G/P$  is a basic ingredient in the construction of BGG sequences, but also gives a simple way of identifying the integral homology of  $G/P$ .