

Diagram illustrating the construction of a 3D Coxeter diagram for a 3D Coxeter group, showing a sequence of transformations and the resulting diagram structure.

The diagram is organized into three main horizontal sections, each representing a different stage of the construction:

- Top Section:** Shows the initial diagram structure. The root node is labeled $\text{ROOT } -2 \ -6 \ 1 \ -5 \ -3 \ 4$. The diagram branches into two main paths. The left path leads to a node labeled $-2 \ -1 \ 6 \ -5 \ -3 \ 4$, which further branches into three paths labeled $4, -5$, $4, -3$, and $6, -5$. The right path leads to a node labeled $-2 \ -6 \ 1 \ -5 \ -4 \ -3$, which branches into three paths labeled $1, -2$, $3, -2$, and $4, -5$.
- Middle Section:** Shows the diagram after a series of transformations. The root node is labeled $\text{ROOT } -2 \ -1 \ 6 \ -5 \ -3 \ 4$. The diagram branches into two main paths. The left path leads to a node labeled $-2 \ -1 \ 6 \ -5 \ -3 \ 4$, which further branches into three paths labeled $4, -5$, $4, -3$, and $6, -5$. The right path leads to a node labeled $-2 \ -6 \ 1 \ -5 \ -4 \ -3$, which branches into three paths labeled $1, -2$, $3, -2$, and $4, -5$.
- Bottom Section:** Shows the final diagram structure. The root node is labeled $\text{ROOT } -2 \ -1 \ 6 \ -5 \ -3 \ 4$. The diagram branches into two main paths. The left path leads to a node labeled $-2 \ -1 \ 6 \ -5 \ -3 \ 4$, which further branches into three paths labeled $4, -5$, $4, -3$, and $6, -5$. The right path leads to a node labeled $-2 \ -6 \ 1 \ -5 \ -4 \ -3$, which branches into three paths labeled $1, -2$, $3, -2$, and $4, -5$.

The diagram illustrates the construction of a 3D Coxeter diagram for a 3D Coxeter group, showing a sequence of transformations and the resulting diagram structure.