

Affine Weyl Groups and Affine Grassmannian Intervals

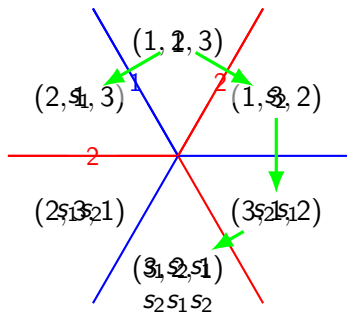
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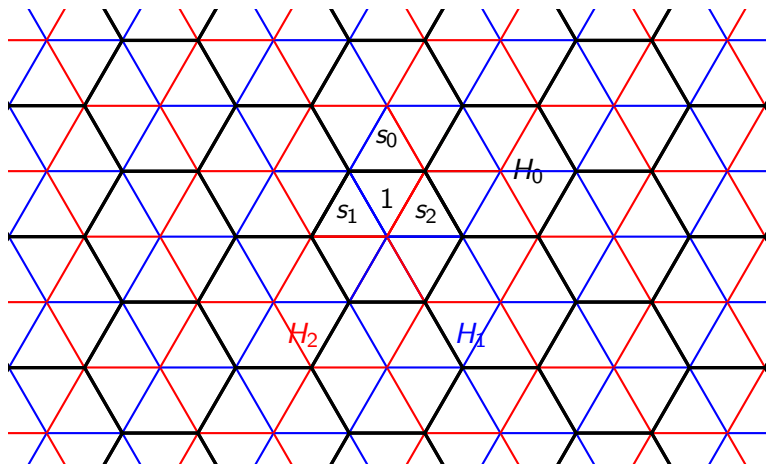
Visitor's Day
17 March 2017

Symmetric Group

- Consider $S_3 = \langle s_1, s_2 \rangle$
- Geometric Interpretation
- Walks and $\ell(w)$

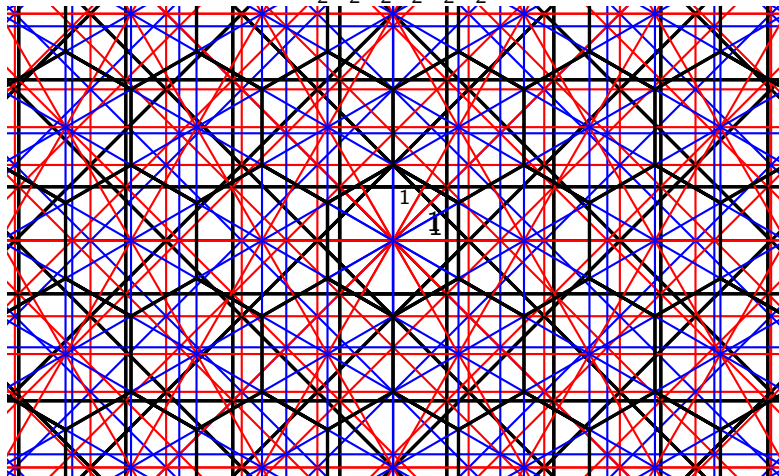


Affine Symmetric Group



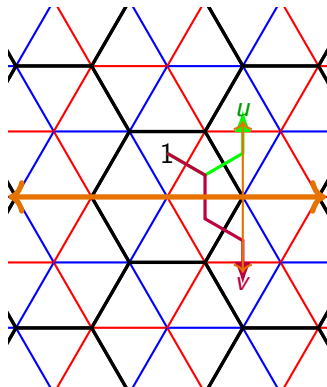
Different Affine Weyl Groups

$B_2 \tilde{B}_2 C_2 \tilde{C}_2 G_2 \tilde{G}_2$



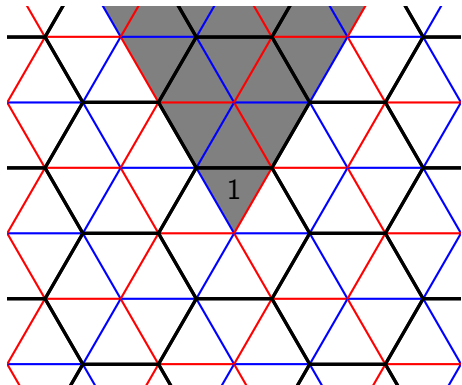
Covers and Intervals

- $u \lessdot v$ if
 - $\ell(v) = \ell(u) + 1$
 - can reflect u to v
- Extend to partial order
- $[v, w] = \{u \mid v \leq u \leq w\}$



Affine Grassmannian Elements

- C are in the fundamental chamber

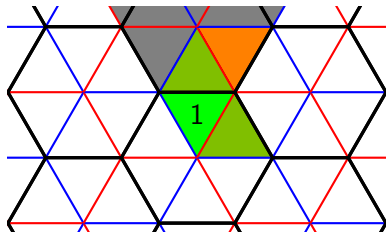


- C is not a group

An Interesting Question

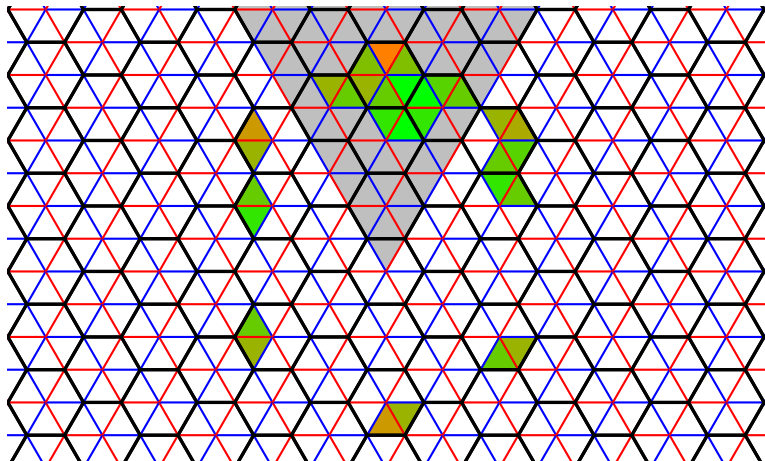
Research Question

If we have a $w \in C$, can we characterize the $v \in C$ such that $[v, w] \subseteq C$?

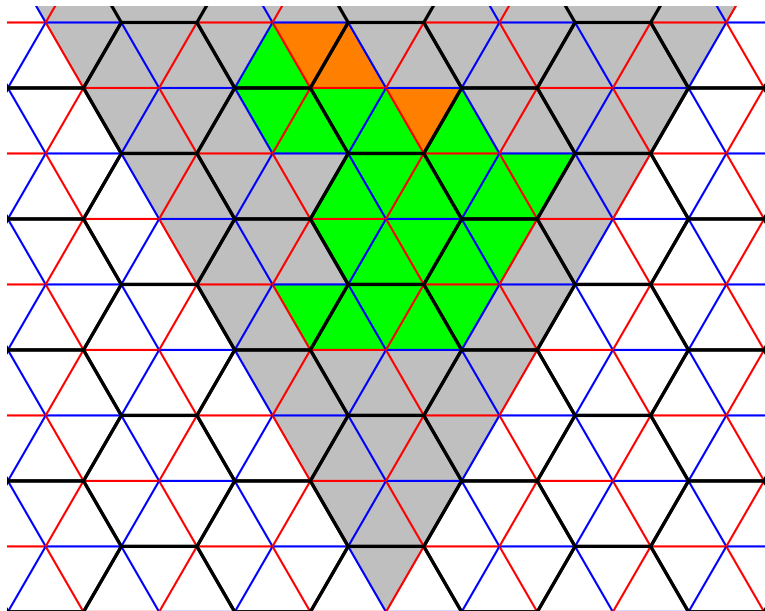


- If $w = s_0s_2$, then $v = 1$ DOESN'T work.

Example Intervals



Solutions



Questions