Main Exercise 1. Compute the double recursion for $gl_3$ clasps, and verify that the conjecture solves the recursion in this case. Where does the dominance order on weights seem to play a role in the recursive formulas?

Main Exercise 2. Compute the cellular form for $\hat{i} = (1, 1, 1, 1)$ at the weights $5\omega_1, 3\omega_1 + \omega_2$, and $\omega_1 + 2\omega_2$. (Hint: Your form should be $\pm$-definite, which is a shadow of Hodge theory!)
Exercise 1. Compute the double recursion for $\mathfrak{gl}_4$ clasps, and verify that the conjecture solves the recursion in this case.

Exercise 2. Fix a field $k$. Let $B$ be an absolutely indecomposable object in a $k$-linear Krull-Schmidt category $\mathcal{C}$; this means that its endomorphism ring is local, with maximal ideal $m$, and $\text{End}(B)/m$ is spanned by the identity map. Let $X$ be any other object in $\mathcal{C}$. Then one has a pairing
\[ \text{Hom}(X, B) \times \text{Hom}(B, X) \to \text{End}(B)/m = k \]
which we call the local intersection pairing of $X$ at $B$. Prove that the multiplicity of $B$ as a direct summand of $X$ is equal to the rank of the local intersection pairing. Why does the local intersection pairing match up with the cellular pairing for an OACC?