Abstract: Let $G$ be a reductive subgroup of a reductive group $G'$. We are interested to the irreducible representation $V(\lambda)$ of $G$ which occurs as subrepresentation of a given irreducible representation $V(\lambda')$ of $G'$. More precisely, we consider the convex cone $C$ generated by the pairs $(\lambda, \lambda')$ as above. In fact, these cones have numerous interpretations and a rich history. Here, we will explain how Geometric Invariant Theory allows to give a (almost) minimal list of linear inequalities which characterizes $C$. 