proof Suppose $W_1 \cup W_2$ is a subspace of V, we assume that $W_1 W_2$ and $W_2 W_1$. Let $x \in W_1 \backslash W_2$, $y \in W_2 \backslash W_1$, then $x + y \in W_1$ or W_2, say W_1. But $y = (x + y) - x \in W_1$, which is a contradiction. So we have $W_1 \subseteq W_2$ or $W_2 \subseteq W_1$. Conversely is trivial.