1. [10 Points] More about Bases

Complete the proof we began in class. Let $B_1, B_2 \in B$ and let $I_1, I_2 \in I$ such that $I_1 \subseteq B_1$ and $I_2 \subseteq B_2$. Recall that we have chosen $B_2$ so that $|B_2 - (I_2 \cup B_1)|$ is minimized. Prove that $B_2 - B_1 = I_2 - I_1$. (Hint: Show that $B_2 - (I_2 \cup B_1)$ is empty.)