CS514: HOMEWORK 1

Due date: 2/5/13

Recall that Horn clauses are clauses with at most one positive literal. Suppose we have two Horn clauses:

\[ x_1 \lor x_2 \lor \cdots \lor x_{k-1} \lor x_k, \]
and \[ \neg x_1 \lor \neg x_2 \lor \cdots \lor \neg x_{k-1} \lor \neg x_k, \]
and two assignments \((\alpha_1, \alpha_2, \ldots, \alpha_k)\) and \((\beta_1, \beta_2, \ldots, \beta_k)\) that each satisfy both these clauses, why does the assignment \((\alpha_1 \land \beta_1, \alpha_2 \land \beta_2, \ldots, \alpha_k \land \beta_k)\) also satisfy both the clauses?