Show a chase sequence for the following tableau and dependencies $\Sigma = \{ AB \rightarrow C, \infty[AB,AC] \}$. (You must repeatedly apply a chase step until no more dependencies in $\Sigma$ can be applied.)

$$
\begin{array}{ccc}
A & B & C \\
w & x & y \\
w & u & v \\
w & x & z \\
\end{array}
$$

Let $R(A,B,C,D)$ be a relation schema and let $\Sigma = \{ AB \rightarrow C, D \rightarrow B \}$. Give an example of two queries $Q_1$ and $Q_2$ where $Q_1 =_\Sigma Q_2$ but $Q_1 \neq Q_2$. In your answer, instead of simply stating two queries $Q_1$ and $Q_2$, show why $Q_1 =_\Sigma Q_2$ and why $Q_1 \neq Q_2$.

Let $\Sigma$ and $\Sigma'$ be non-empty sets of FDs and JDs over $R$, and let $(T, t)$ be a tableau query over $R$. Show the following

- If $\Sigma \equiv \Sigma'$, then chase$(T, t, \Sigma)$ and chase$(T, t, \Sigma')$ coincide (i.e., there is one chase sequence of $(T,t)$ with $\Sigma$ and one chase sequence of $(T,t)$ with $\Sigma'$ for which chase$(T,t,\Sigma) = \text{chase}(T,t,\Sigma')$).