CSCI-4333 Database Design & Implement

Homework 9 & 10

Q1 (5 pt): Given a table below, answer if the following FDs are satisfied by the table or not.

A	B	C
c	1	1
b	3	3
a	1	3
b	1	3

1. $B \rightarrow A$
2. $C \rightarrow B$
3. $A \rightarrow AC$
4. $AC \rightarrow B$
5. $BC \rightarrow A$

Q2 (2 pt): Proof decomposition rule: if $X \rightarrow YZ$, then $X \rightarrow Y$ and $X \rightarrow Z$.

Q3 (3 pt): Suppose we have a table R with six attributes: $\{A, B, C, D, E, F, G\}$, and a set $FD = \{A \rightarrow BC, B \rightarrow G, B \rightarrow C, AG \rightarrow EF, E \rightarrow A, D \rightarrow ABE\}$. Answer the following questions?

1. (1.5 pt) What is BD^+?
2. (1.5 pt) What is E^+?