CSC343 Prep9

Haider Sajjad

July 17, 2019

1. a) {B, D, E}

   b) {A, B, C, D, E, F}

   c) {A, D, E, F}

   d) {B, C, D, E}

   e) {A, B, C, D, E}

2. a) no, closure of B, B^+ is {B, D, E}, A is not in the set.

   b) yes, closure of CF, CF^+ is {A, B, C, D, E, F}, E is in the set.

   c) no, closure of DF, DF^+ is {A, D, E, F}, B is not in the set.

   d) no, closure of BD, BD^+ is {B, D, E}, C is not in the set.

   e) yes, closure of BFC, BFC^+ is {A, B, C, D, E, F} , A is in the set.

3. **A**BD
   A^+ = {A,D,C,E}, FDs = A $\rightarrow$ D

   A**B**D
   B^+ = {A,B,C,D,E}, FDs = B $\rightarrow$ A, B $\rightarrow$ D

   AB**D**
   D^+ = {A,C,D,E}, FDs = D $\rightarrow$ A

   A**BD**
   BD^+ = {A,B,C,D,E}, FDs = NONE

   AB**D**
   AD^+ = {A, C, D, E}, FDs = NONE

   ABD
   AB^+ = {A,B,C,D,E}, FDs = NONE

ABD
$ABD^+ = \{A,B,C,D,E\}$, FDs = NONE

Projection of S on ABD is: A $\rightarrow$ D , B $\rightarrow$ A, B $\rightarrow$ D, D $\rightarrow$ A

4. An instance of R is below. The '2' that is bold and highlighted is the redundant data, because we already had the in the first row F(5) $\rightarrow$ D(2)

A	**B**	**C**	**D**	**E**	**F**
3	1	1	2	4	5
4	7	2	3	5	6
5	6	4	***2***	8	5