

Task C4.2.1

Dependency	Possible(Yes/No)	Why/why not?
A → B	NO	As there is same value of B (b2) for different values of A (a1, a2) .
A → C	NO	As there is same value of C (c3) for different values of A (a1, a2) .
A → D	NO	As there is same value of D (d4) for different values of A (a2, a3) .
B → A	NO	As there is same value of A (a1) for different values of B (b1, b2) .
B → C	YES	As each element of C can be uniquely identifiable by unique element of B .
B → D	NO	As there is same value of D (d4) for different values of B (b2, b3) .
C → A	NO	As there is same value of A (a1) for different values of C (c1, c3) .
C → B	YES	As each element of B can be uniquely identifiable by unique element of C .
C → D	NO	As there is same value of D (d4) for different values of C (c3, c5) .
{A, B} → C	YES	As each element of C can be uniquely identifiable by unique element of {A, B} .
{A, B} → D	YES	As each element of D can be uniquely identifiable by unique element of {A, B} .
{B, C} → A	NO	As there is same value of A (a1) for different values of {B, C}({b1, c1}, {b2, c3}) .
{B, C} → D	NO	As there is same value of D (d4) for different values of {B, C}({b2,c3}, {b3,c5}) .
{C, D} → A	YES	As each element of A can be uniquely identifiable by unique element of {C, D} .
{C, D} → B	YES	As each element of B can be uniquely identifiable by unique element of {C, D} .

$\{A, C\} \rightarrow B$	YES	As each element of B can be uniquely identifiable by unique element of {A, C} .
$\{A, C\} \rightarrow D$	YES	As each element of D can be uniquely identifiable by unique element of {A, C} .

we can conclude from this table that, there is no single column that can be a primary key. We need to make composite key as a primary excluding combination of {B, C} as a primary key.