Employees Table

A = EID, B = name, C = address, D = email, E = depart\_date, F = join\_date, G = phone

A -> B, A -> C, A -> D, A -> E, A -> F, A -> G 🡺 A->BCDEFG

D -> A, D -> B, D -> C, D -> E, D -> F, D -> G 🡺D->ABCEFG

Pay\_slips Table

A = EID, B= payment\_date, C= amount, D = num\_work\_hours, E = num\_work\_days

AB -> C, AB -> D, AB -> E 🡺 AB -> CDE

AD -> C, AE -> C

{AB}+ = {ABCDE}

{AC}+ = {AC}

{AD}+ = {ACD} (violate BCNF)

R(A,B,C,D,E)

|| \\

R1(A,C,D) R2(A,B,D,E)

Courses

A = Course\_id, B = name, C = title, D = duration, E = description

A -> B, A -> C, A -> D, A -> E 🡺 A -> BCDE

C -> A, C -> B, C -> D, C -> E 🡺 C -> ABDE

Offerings

A = course\_id, B = launch\_date, C = start\_date, D = eid, E =end\_date, F = registration\_deadline, G = target\_number\_registrations, H = seating capacity, I = fees

AB -> C, AB -> D, AB -> E, AB -> F, AB -> G, AB -> H, AB -> I

Rooms

A = rid, B = location, C = seating\_capacity

A -> B, A -> C 🡺 A -> BC

B -> C, B -> A 🡺 B -> AC

Sessions

A = course\_id, B = launch\_date, C = course\_area, D = rid, E = eid, F = sid, G = session\_date, H = start\_time, I = end\_time

ABF -> C, ABF -> D, ABF -> E, ABF -> G, ABF -> H, ABF -> I 🡺 ABF -> CDEGHI

A -> C, DGHI -> ABF, EGHI -> ABF

Customer

A = cust\_id, B = address, C = phone, D = name, E = email

A -> B, A -> C, A -> D, A -> E 🡺 A -> BCDE

E -> A, E -> B, E -> C, E -> D 🡺 E -> ABCD

Cancels

A = cust\_id, B = course\_id, C = launch\_date, D = sid, E = cancellation\_date, F = refund\_amt, G = package\_credit

ABCDE -> F, ABCDE -> G 🡺 ABCDE -> FG

Owns\_credit\_cards

A = card\_number, B = cust\_id, C = CVV, D = from\_date, E = expiry\_date

A -> B, A -> C, A -> D, A -> E 🡺 A -> BCDE

Registers

A = card\_number, B = course\_id, C = launch\_date, D = sid, E = registration\_date

ABC -> D, ABC -> E

Course\_packages

A = package\_id, B = sales\_start\_date, C = sales\_end\_date, D = num\_free\_registrations, E = name,

F = price

A -> B, A -> C, A -> D, A -> E, A -> F 🡺 A->BCDEF

E -> A, E -> B, E -> C, E -> D, E -> F 🡺 E -> ABCDF

Buys

A = card\_number, B = package\_id, C = purchase\_date, D = num\_of\_redemption

ABC -> D

Redeems

A = card\_number, B = package\_id, C = purchase\_date, D = course\_id, E = launch\_date, F = sid, G = redemption\_date

ADE -> B, ADE -> C , ADE -> F, ADE -> G (ADE -> BCFG)