LABORATORY 2: CSCI235
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Task 1:
STUDENT(snumber, first-name, last-name, ccode)
         snumber → first-name, last-name
Therefore, first-name, last-name columns will have redundancies as a student enrolls in more classes.

HOTEL(name, city, capacity, enumber, salary)
         name, city → capacity
         enumber → salary
Therefore; capacity, salary will have redundancies.

WAREHOUSE(wname, address, part, quantity)
         address → wname
         wname → address
         wname, part → quantity
         Address, part → quantity
Therefore: address, wname, quantity will have redundancies so schema should be decomposed.

LIBRARY(cnumber, title, price, isbn)
         title → price, ISBN
         cnumber → title, price, ISBN
         ISBN → title, price
Therefore: title, price, ISBN will have redundancies so schema should be decomposed.

Task 2:
Q1: R(A, B, C, D, E) and {A → B, C → A}
-Derivations that identify minimal keys:
C → B; transitive axiom
C → AB; union
Therefore minimal key identified.

-Minimal keys:
-CDE

Q2: R(A, B, C, D, E) and {A → E, E → C, CD → A}
-Derivations that identify minimal keys:
A → C; transitive axiom
A → EC; union
ED → DC; augmentation axiom
ED → A; transitive axiom
ED → ADC; union
Therefore 3 minimal keys identified.

-Minimal keys:
-BED, BAD, BCD

Q3: R(A, B, C, D, E) and {D → A, DA → B, DE → ABC}
-Derivations that identify minimal keys:
No derivations required.
Minimal key identified.

-Minimal keys:
-DE