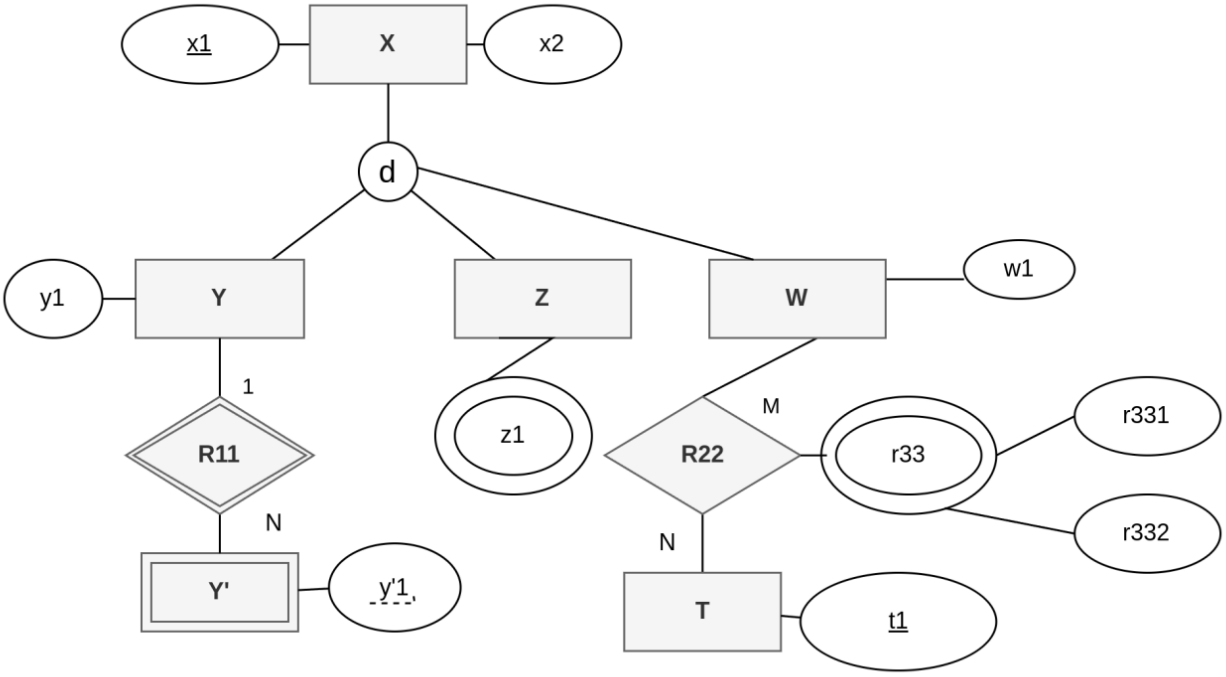
CSE 370 – Database Systems

Section 08 | Quiz 03 | Spring 2025

Question 1 : 6 Points

Map the following EER schema to a Relational schema. Apply any suitable Multiple Relation option for the Generalization/Specialization.



Question 2 : 4 Points

Consider the following relation:

R8 (L, M, N, O, P, Q, R, S, T)

The primary key of the relation is underlined. Suppose the following additional dependencies exist:

FD1: L → N, O, P

FD2: M→ Q, R, S

FD3: N → P

FD4: Q→ S

(i) Explain whether this relation is in 2NF. If not, decompose it to 2NF.

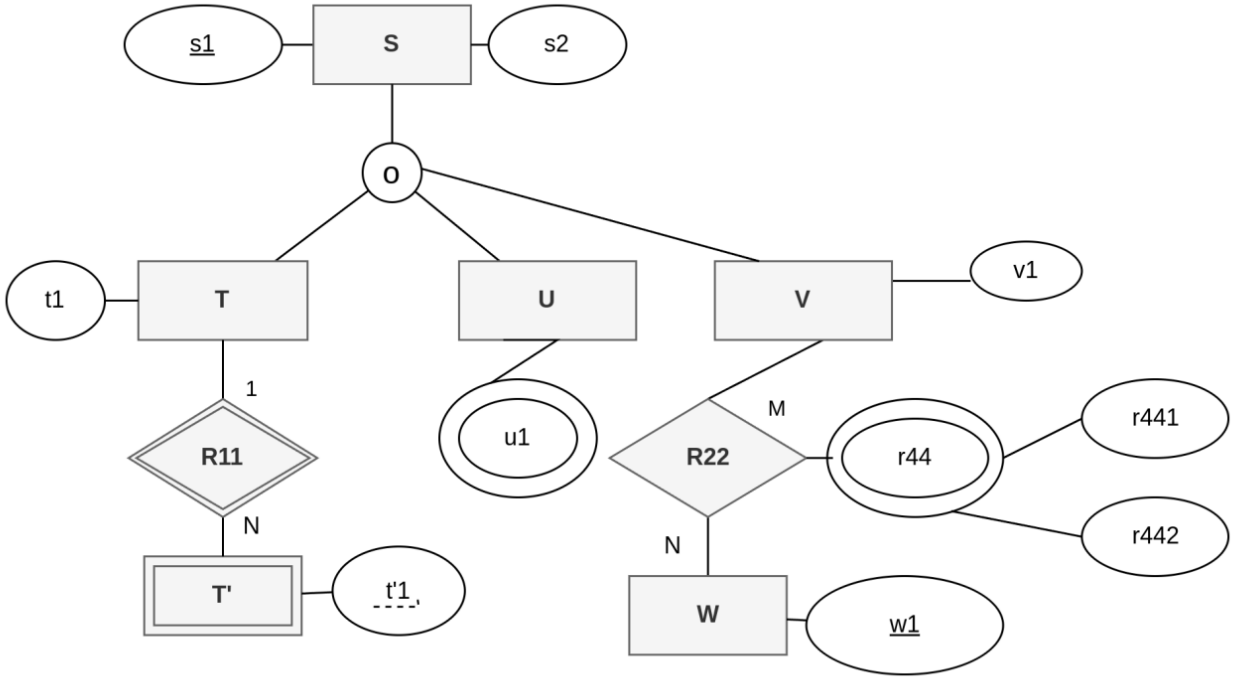
(ii) Explain whether the relation of no (i) is in 3NF. If not, decompose it to 3NF.

CSE 370 – Database Systems

Section 09 | Quiz 03 | Spring 2025

Question 1 : 6 Points

Map the following EER schema to a Relational schema. Apply any suitable Multiple Relation option for the Generalization/Specialization.



Question 2 : 4 Points

Consider the following relation:

R9 (A, B, C, D, E, F, G, H, I)

The primary key of the relation is underlined. Suppose the following additional dependencies exist:

FD1: A → C, D, E

FD2: B → F, G, H

FD3: C → E

FD4: F → H

(i) Explain whether this relation is in 2NF. If not, decompose it to 2NF.

(ii) Explain whether the relation of no (i) is in 3NF. If not, decompose it to 3NF.