1) <u>1:1</u>

X(<u>K1</u>, **K2**, A1) (K2 needs to be unique)
Y(<u>K2</u>, A2)

or

X(<u>K1</u>, A1)
Y(<u>K2</u>, **K1**, A2) (K1 needs to be unique)

2) <u>1:M</u>
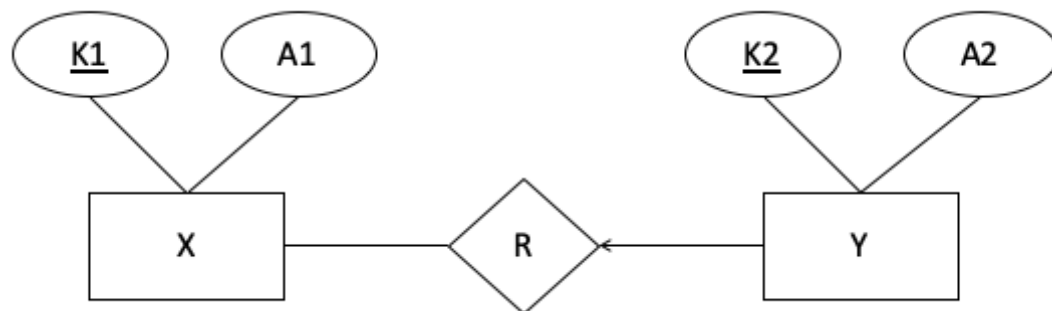
X(<u>K1</u>, A1)
Y(<u>K2</u>, **K1**, A2)

3) <u>M:N (Binary Relationship)</u>
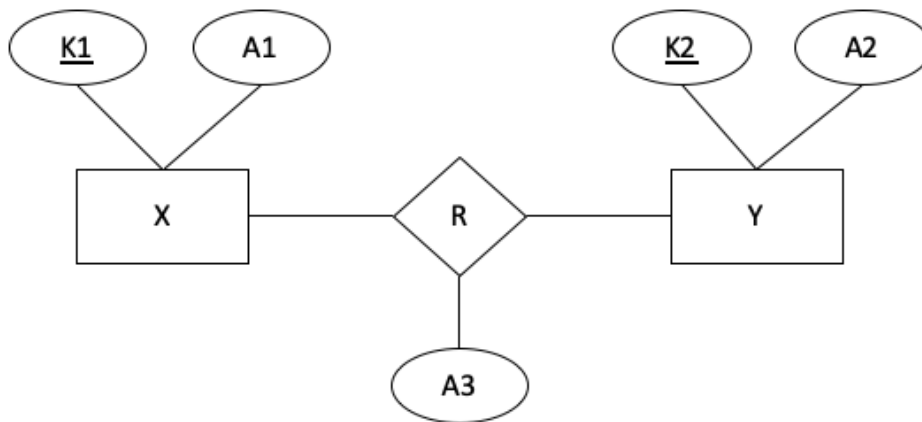
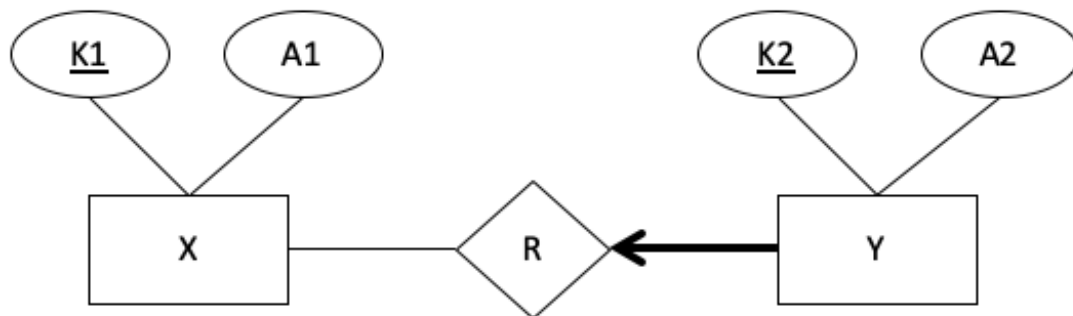
X($\underline{K1}$, A1)
Y($\underline{K2}$, A2)
R(**$\underline{K1}$**, **$\underline{K2}$**, A3)

4) <u>M:N (Ternary Relationship)</u>
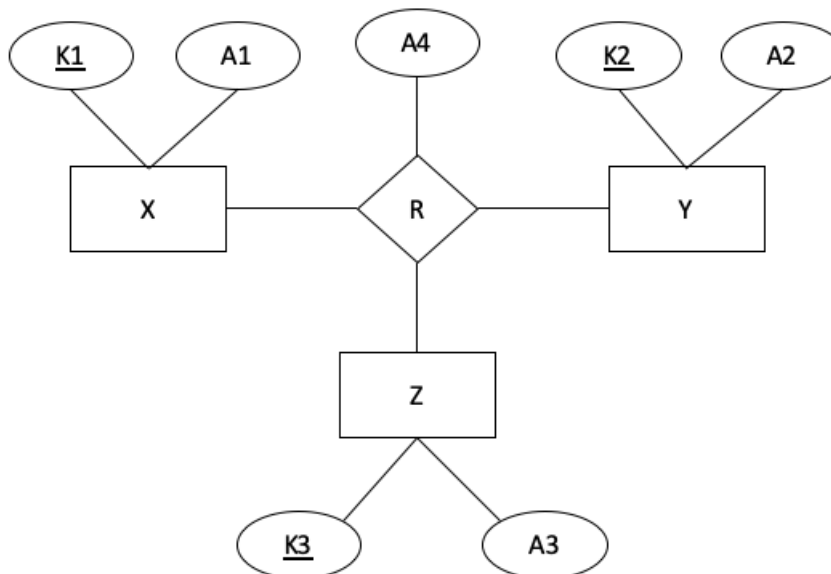
X($\underline{K1}$, A1)
Y($\underline{K2}$, A2)
Z($\underline{K3}$, A3)
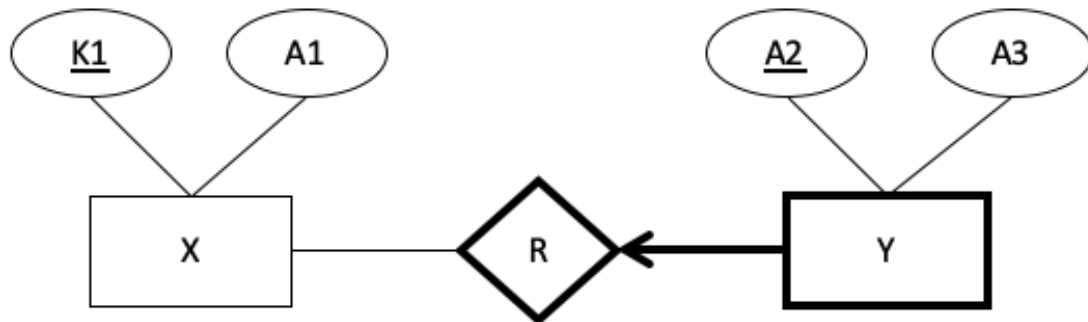R(**$\underline{K1}$**, **$\underline{K2}$**, **$\underline{K3}$**, A4)

5) <u>1:M Entity with Total Participation</u>

X(<u>K1</u>, A1)
Y(**K1**, <u>K2</u>, A2) (K1 cannot be null)

6) <u>1:M Weak Entity with Total Participation (assume that A2 is the partial key)</u>

X(<u>K1</u>, A1)
Y(**K1**, <u>A2</u>, A3)

7) <u>1:1 and 1:M Unary Relationship</u>
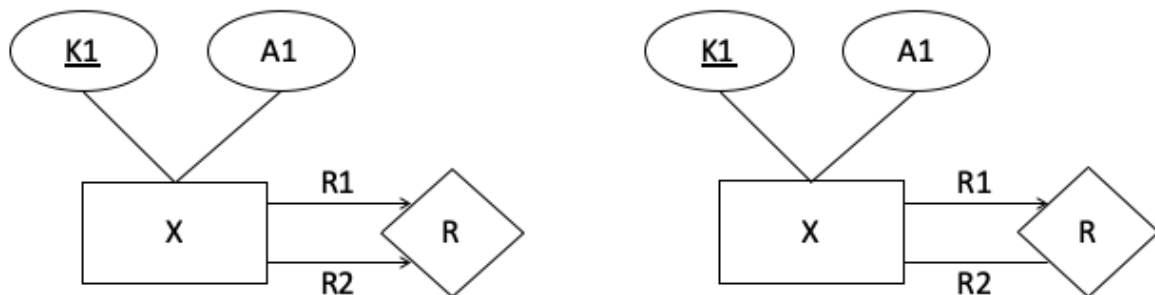
X(<u>K1</u>, A1, K2) (if it is 1:1, then we require K2 to be unique) OR
X(<u>R1-K1</u>, A1, **R2-K1**) (if it is 1:1, then we require R2-K1 to be unique)

8) M:N Unary Relationship
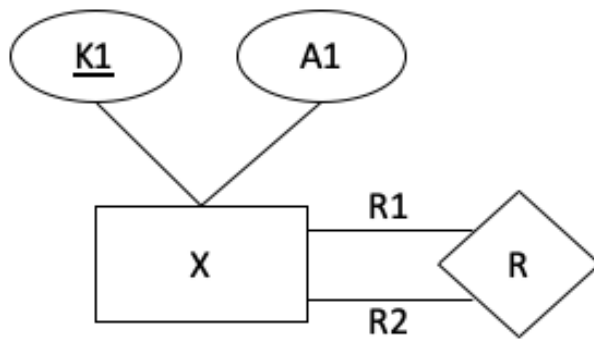
X(K1, A1)
R(**K1**, **K2**)

OR

X(R1-K1, A1)
R(**R1-K1, R2-K1**)

9) ISA 1
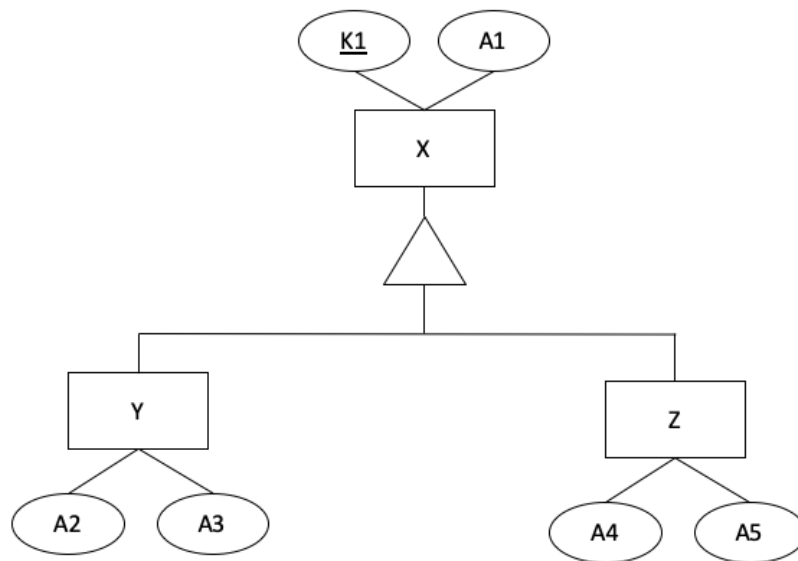
X(K1, A1)
Y(**K1**, A2, A3)
Z(**K1**, A4, A5)

10) <u>ISA 2</u> (the "d" means disjoint)
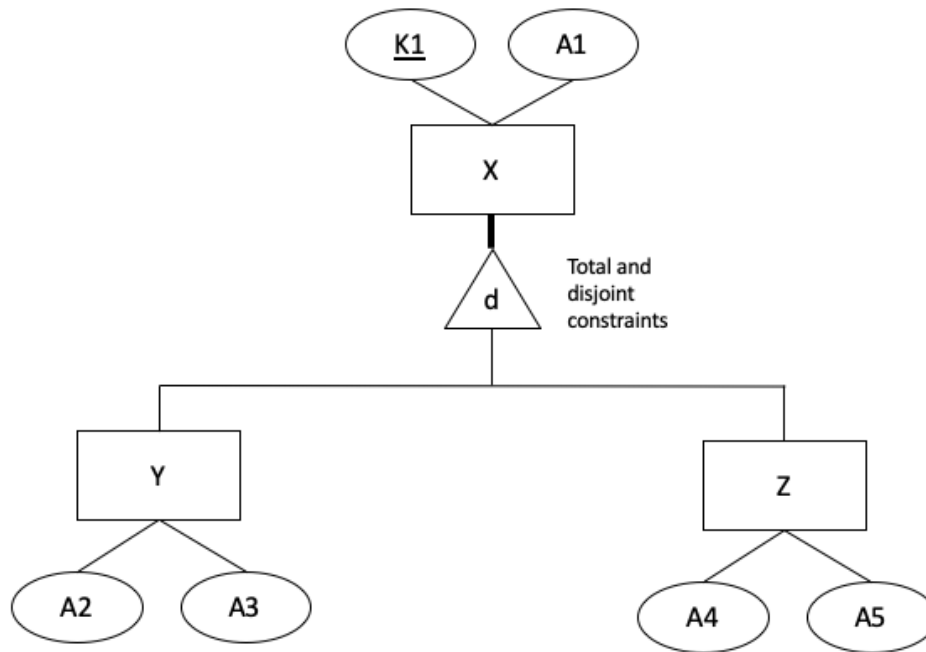
Y(<u>K1</u>, A1, A2, A3)

Z(<u>K1</u>, A1, A4, A5)

K1 is not bolded because it is not a foreign key in our case.
Although Y and Z are "subclasses" of X, we do **not** create table X. Hence, K1 is not bolded.