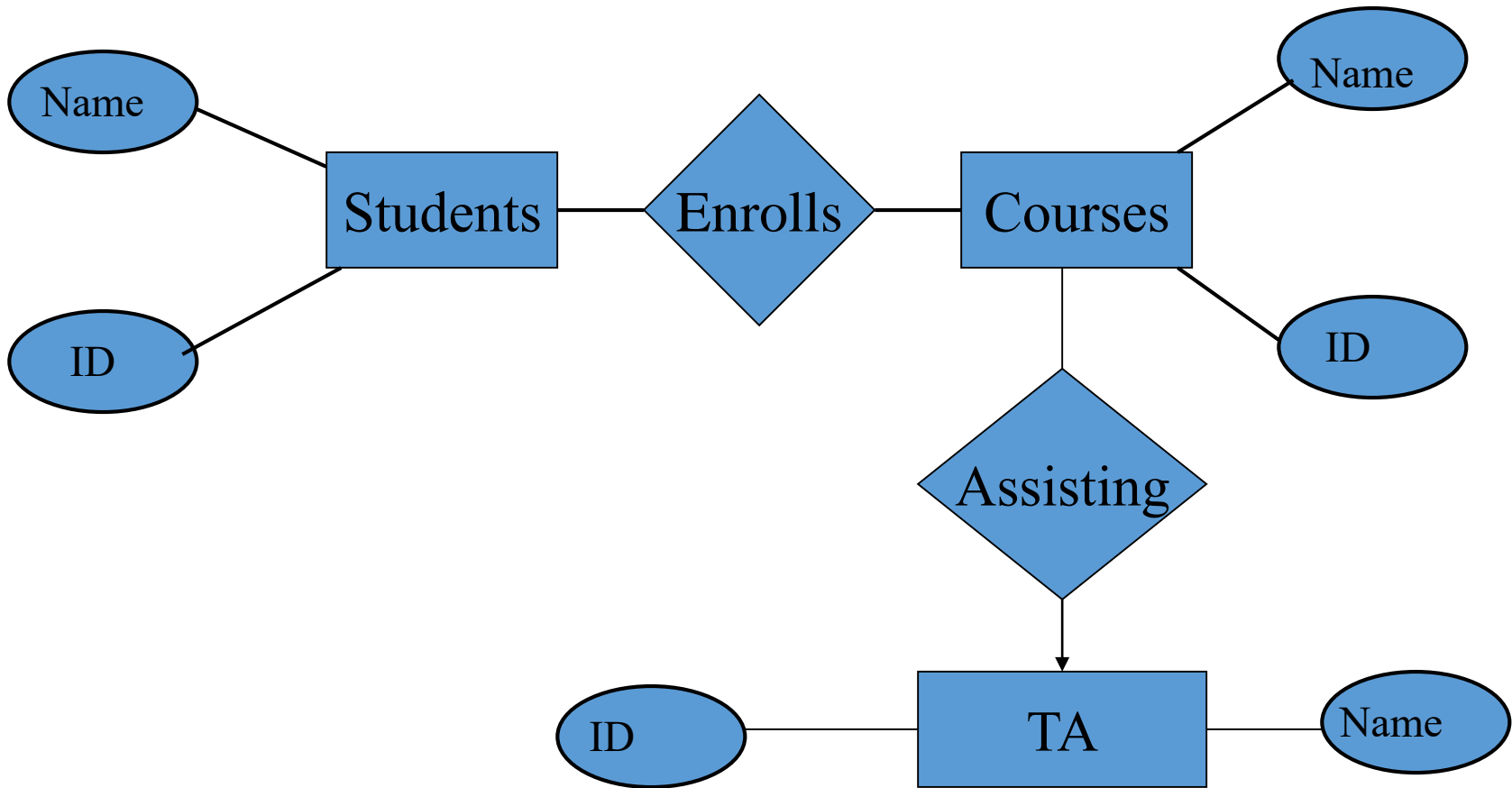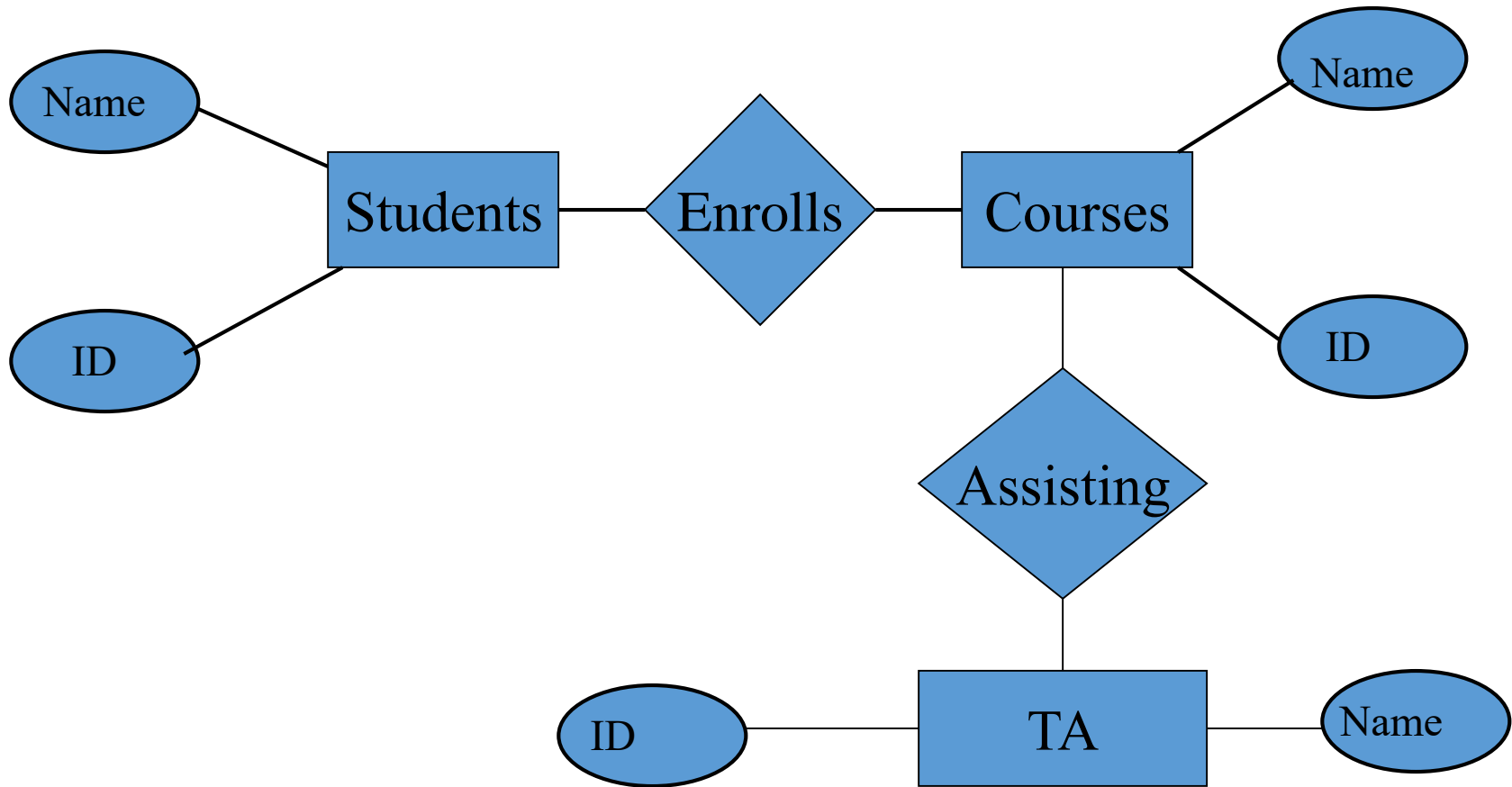# Multiplicity of multiway relationships

Multiplicity of multiway relationships 1/4

1 TA per course

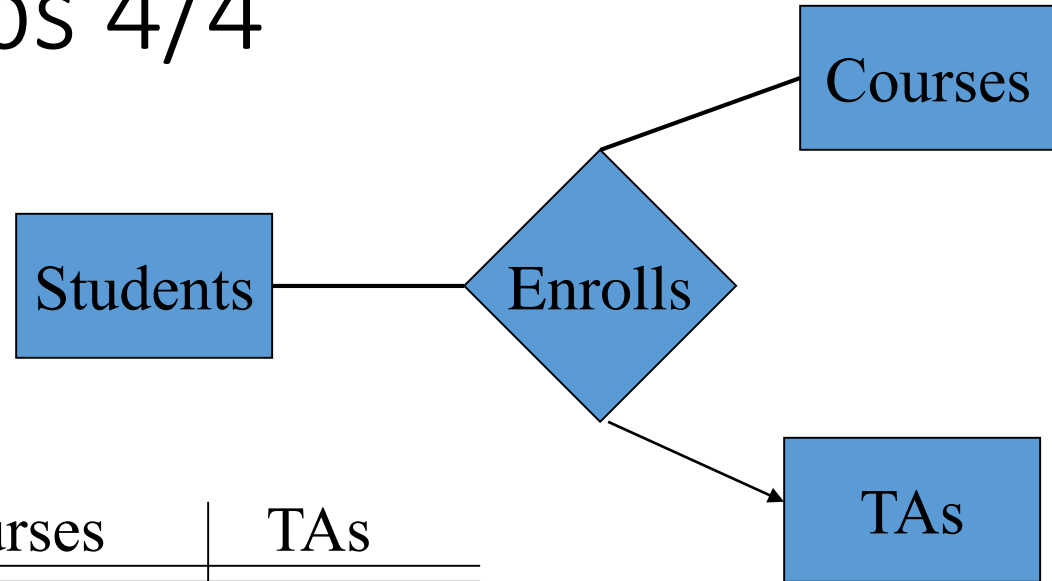# Multiplicity of multiway relationships 2/4

Multiple TAs per course

Multiplicity of multiway relationships 3/4

- Works if each TA is a TA of all students
    - Student and TA connected through Course

- But what if students were divided among multiple TAs?
    - Then a student in CSC343 would be related to all of the TA's for CSC343—which one has helped him?

- 3-way relationship is helpful here
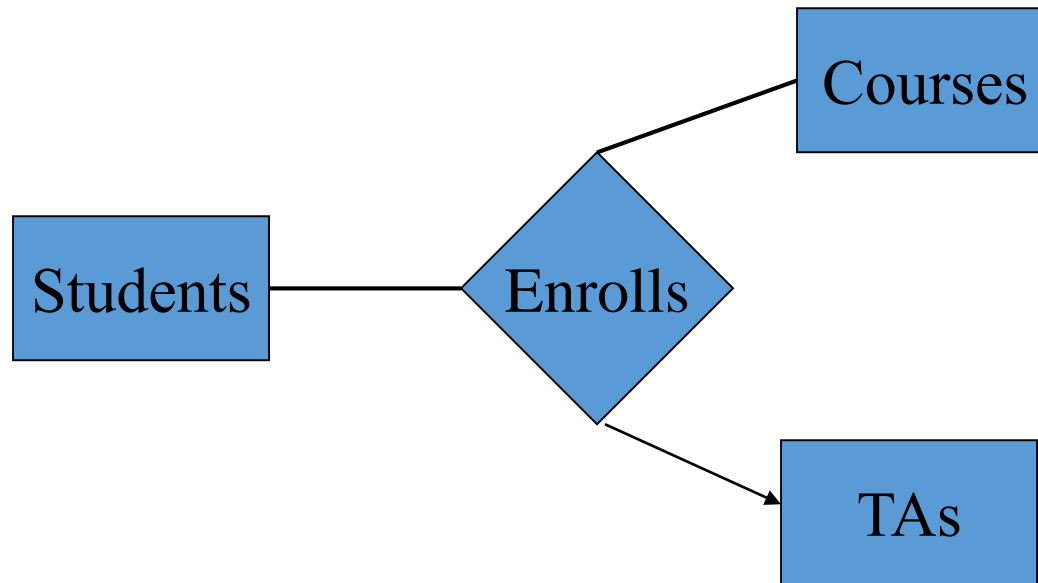
Multiplicity of multiway relationships 4/4

Courses

Students — Enrolls

TAs

Enrolls entries:

Students	Courses	TAs
Condi	CSC343	Donald
George	CSC343	Dick
Alberto	CSC343	Colin
…	…	…

Enrolls determines *TA*:

(student, course) →
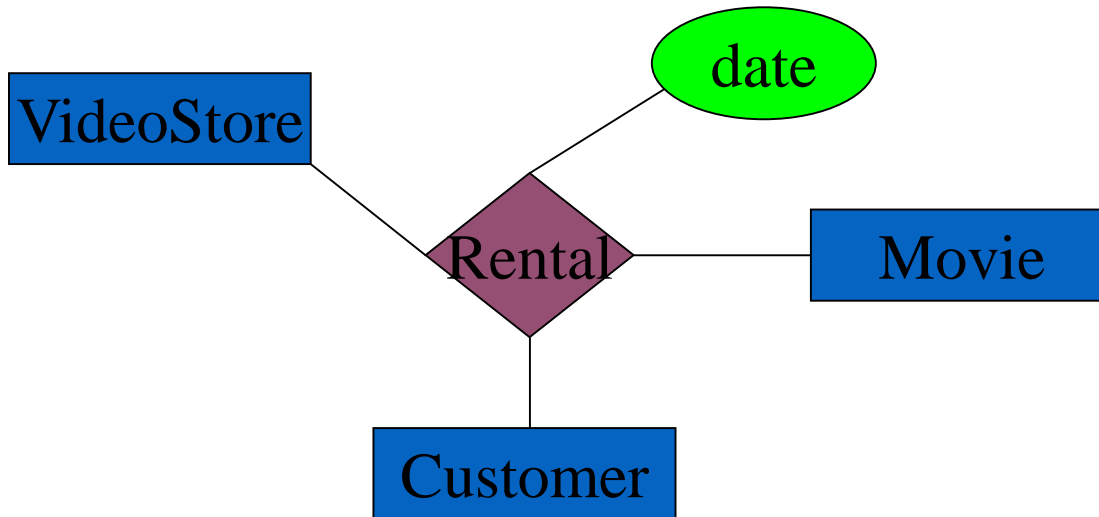at most one TA

Multiplicity test for multiway relationships 1/2

Take every PAIR of entities and see to how many entities it is related in the third:
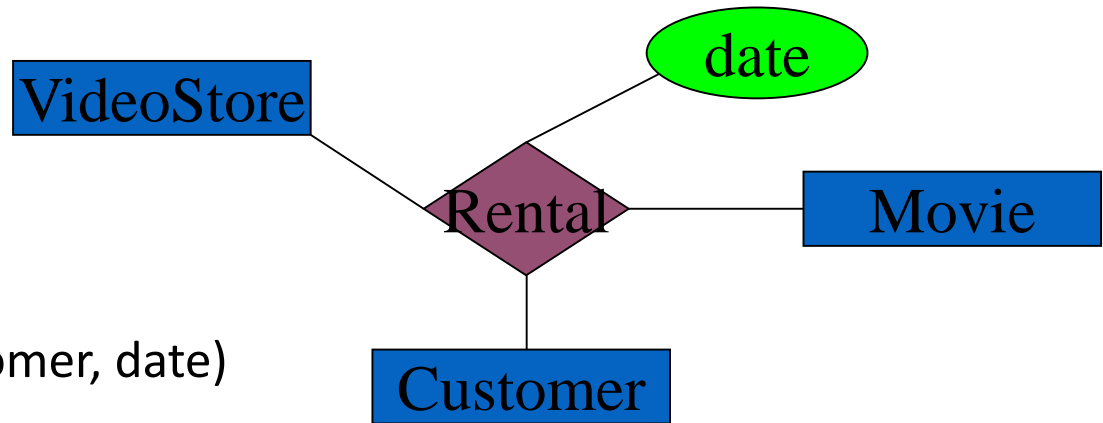(Student A, Course B) -> 1 TA
(Course B, TA C) -> multiple students
(Student A, TA C) -> possibly multiple courses over the years

Multiplicity test for multiway relationships 2/2

Where should we put arrows here?

Multiway relationships can be represented as binary – but mean the same thing

VideoStore

date

Rental

Movie

Customer

The schema is the same
Rental (store, movie, customer, date)

date

Rental

MovieOf

Movie

StoreOf

Store

BuyerOf

Customer