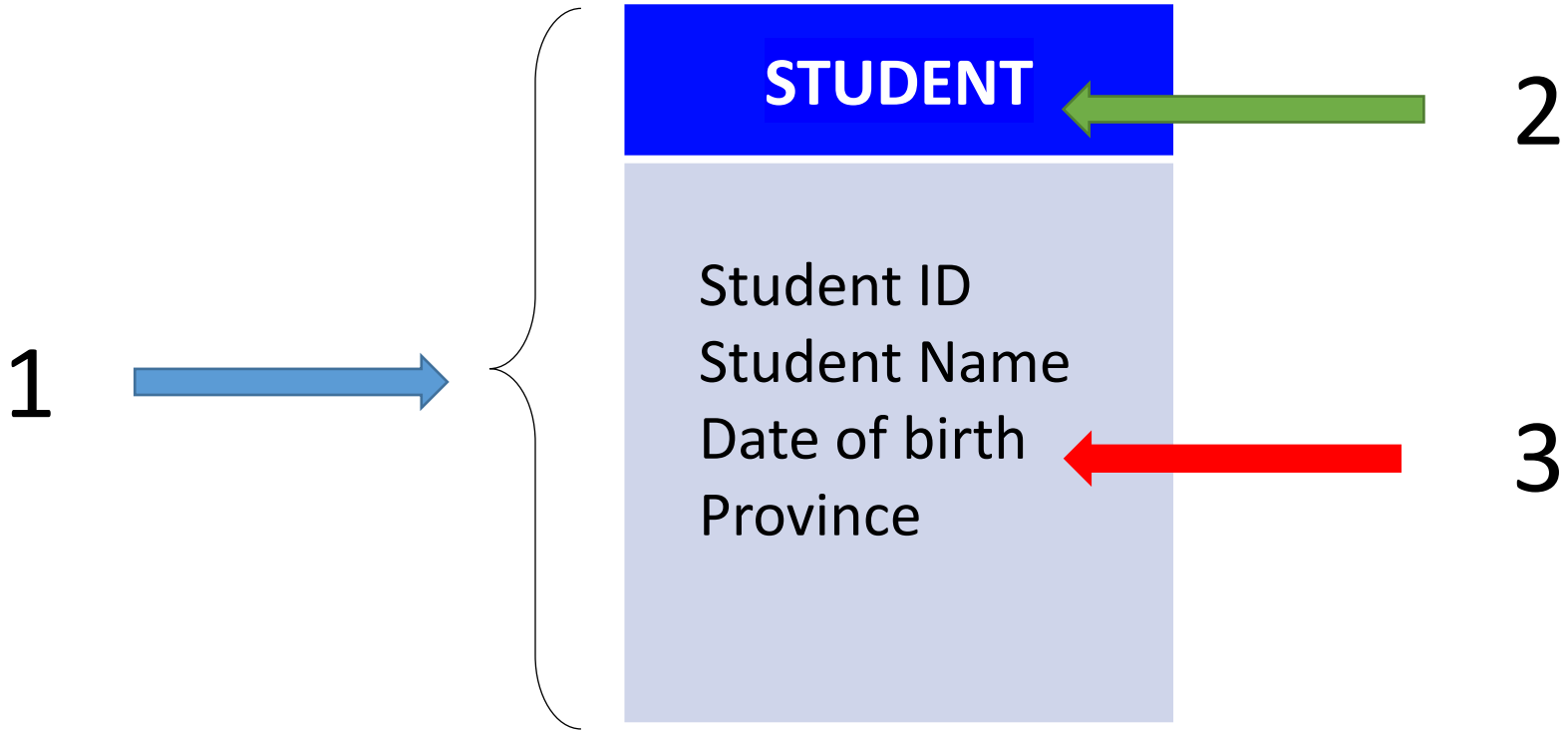
Take a paper put your name.
All of your answers need to write on to this paper.

QUIZ!

1. Which answer is correct?



A

1= Table model or schema
2 = Entity
3 = Attribute

B

1= Table
2 = Entity
3 = Attribute

C

1= Table
2 = Attributes
3 = Entity

2. What is the type of : departure attribute ?

A INTEGER

D BOOLEAN

B STRING

E FLOAT

C DATE

FlightBook
departureDate canHaveDogs lastName age company

3. What is the type of : age attribute ?

A INTEGER

B STRING

C DATE

D BOOLEAN

E FLOAT

FlightBook

departureDate
canHaveDogs
lastName
age
compagny

4. What is the type of : company attribute ?

A INTEGER

B STRING

C DATE

D BOOLEAN

E FLOAT

FlightBook

departureDate
canHaveDogs
lastName
age
compagny

5. What is the type of : canHaveDogs attribute ?

A INTEGER

B STRING

C DATE

D BOOLEAN

E FLOAT

FlightBook

departureDate
canHaveDogs
lastName
age
compagny

6. **how many** PYTHON contests Cham performed ?

HACKER RANK CONTEST

Contest ID	Contest name	Language
1	Python basics	PYTHON
2	Python Advanced	PYTHON
3	Javascript DOM	JAVASCRIPT

HACKER RANK MEMBERS

Member ID	Member name	Nickname
1	Cham	The warrior
2	Soklim	The crazy
3	Sreymoa	The amazing

HACKER RANK RESULTS

Member ID	Contest ID	Result	Time
1	1	40	5
2	3	50	10
1	2	100	40
2	2	50	60
3	2	60	40
3	1	70	10
1	2	100	30

7. how much time in total Soklim competed on HackerRank ?

HACKER RANK CONTEST

Contest ID	Contest name	Language
1	Python basics	PYTHON
2	Python Advanced	PYTHON
3	Javascript DOM	JAVASCRIPT

HACKER RANK MEMBERS

Member ID	Member name	Nickname
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HACKER RANK RESULTS

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1	1	40	5
2	3	50	10
1	2	100	40
2	2	50	60
3	2	60	40
3	1	70	10
1	2	100	30

8. Which contest is the most popular ?

HACKER RANK CONTEST

Contest ID	Contest name	Language
1	Python basics	PYTHON
2	Python Advanced	PYTHON
3	Javascript DOM	JAVASCRIPT

HACKER RANK MEMBERS

Member ID	Member name	Nickname
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HACKER RANK RESULTS

Member ID	Contest ID	Result	Time
1	1	40	5
2	3	50	10
1	2	100	40
2	2	50	60
3	2	60	40
3	1	70	10
1	2	100	30

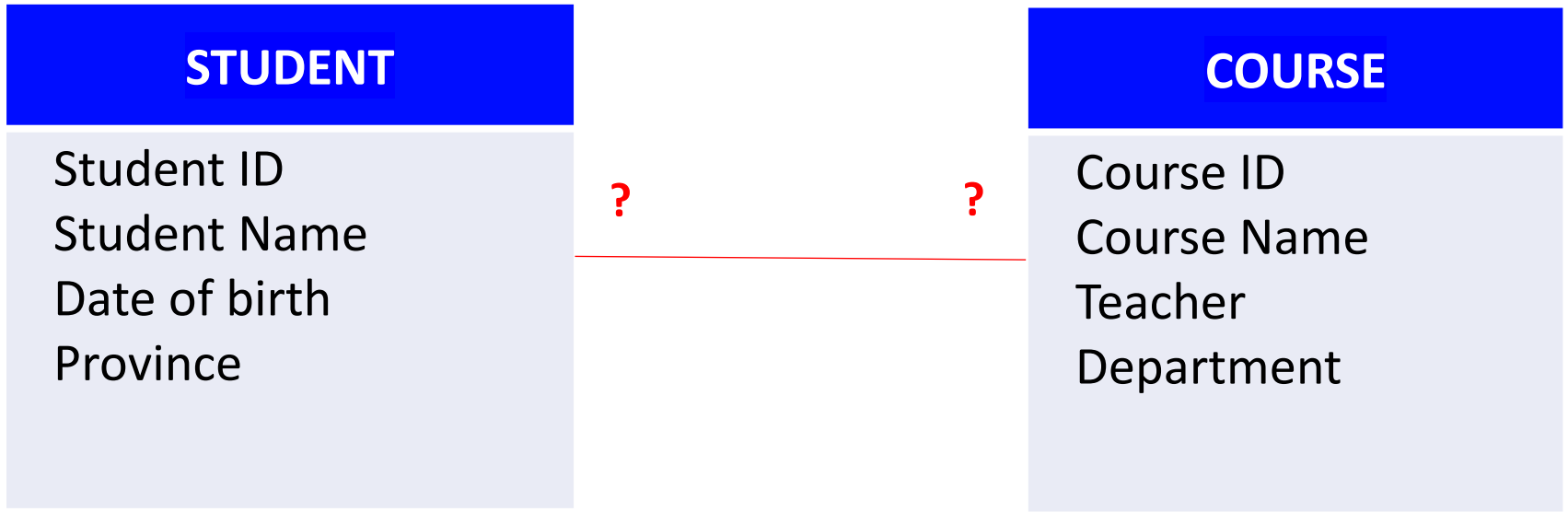
OBJECTIVES FOR TODAY

- ✓ Understand the **relation** **many to many** between entities
- ✓ What is a **primary** key ?
- ✓ What is a **foreign** key ?

DB

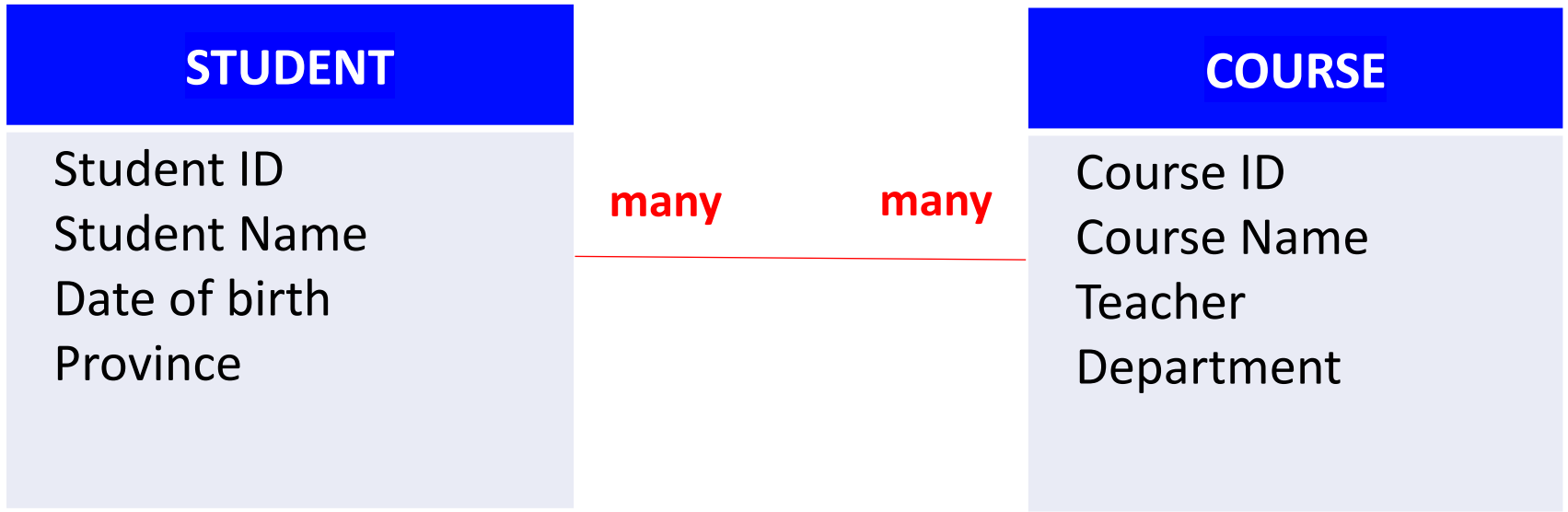
MANY TO MANY RELATION

Relation between Student and Course



- ✓ How many courses can follow a student?
- ✓ How many students can follow one course?

Many to many relation



- ✓ A student has **many** courses
- ✓ A course can welcome **many** students

ACTIVITY 1

10 MIN

STUDENT

Student ID	Student Name	Date of birth	Province
1001	Mengyi	xxx	xxx
1002	Tim	xxx	xxx
1003	Narong	xxx	xxx
1004	Nork	xxx	xxx
1005	Sophim	xxx	xxx

ENROLMENT

Enrolment ID	Student ID	Course ID
10011001	1001	1002
10021002	1002	1002
10031002	1003	1002
10031001	1003	1001
10041001	1004	1001
10051001	1005	1001
10011004	1001	1004
10021004	1002	1004

COURSE

Course ID	Course name	Teacher	Department
1001	JavaScript	Clément	WEP
1002	Oral comprehension	Sokhom	English
1003	Algorithm	Ronan	WEP
1004	Drawing	Him	Art

1. What courses follows Mengyi?
2. Who are the students that follow the Javascript course?
3. How many students follow the Drawing course?

CORRECTION

What courses follows Mengyi?

STUDENT

Student ID	Student Name
1001	Mengyi
1002	Tiim
1003	Narong
1004	Nork
1005	Sophim

ENROLMENT

Enrolment ID	Student ID	Course ID
10011001	1001	1002
10021002	1002	1002
10031002	1003	1002
10031001	1003	1001
10041001	1004	1001
10051001	1005	1001
10011004	1001	1004
10021004	1002	1004

COURSE

Course ID	Course name	Teacher	Department
1001	JavaScript	Clément	WEP
1002	Oral comprehension	Sokhom	English
1003	Algorithm	Ronan	WEP
1004	Drawing	Him	Art

CORRECTION

Who are the students that follow the Javascript course?

STUDENT

Student ID	Student Name
1001	Mengyi
1002	Tiim
1003	Narong
1004	Nork
1005	Sophim

ENROLMENT

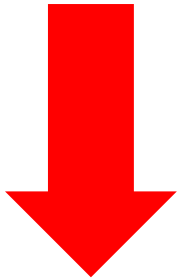
Enrolment ID	Student ID	Course ID
10011001	1001	1002
10021002	1002	1002
10031002	1003	1002
10031001	1003	1001
10041001	1004	1001
10051001	1005	1001
10011004	1001	1004
10021004	1002	1004

COURSE

Course ID	Course name	Teacher	Department
1001	JavaScript	Clément	WEP
1002	Oral comprehension	Sokhom	English
1003	Algorithm	Ronan	WEP
1004	Drawing	Him	Art

Many to many relation

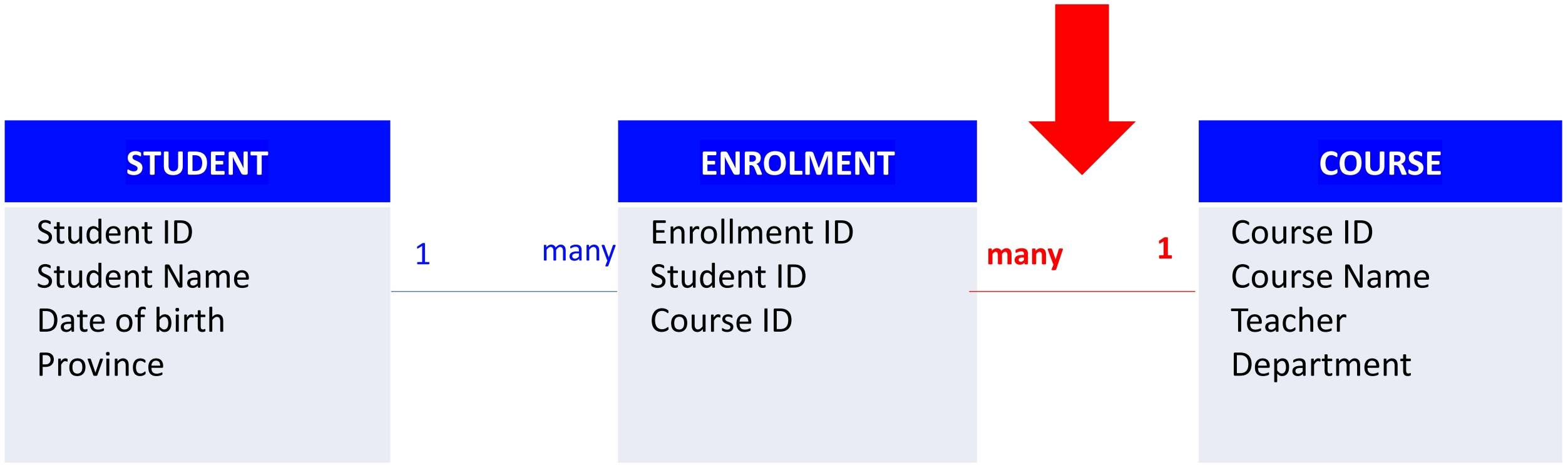
one to many relation between students and enrolments



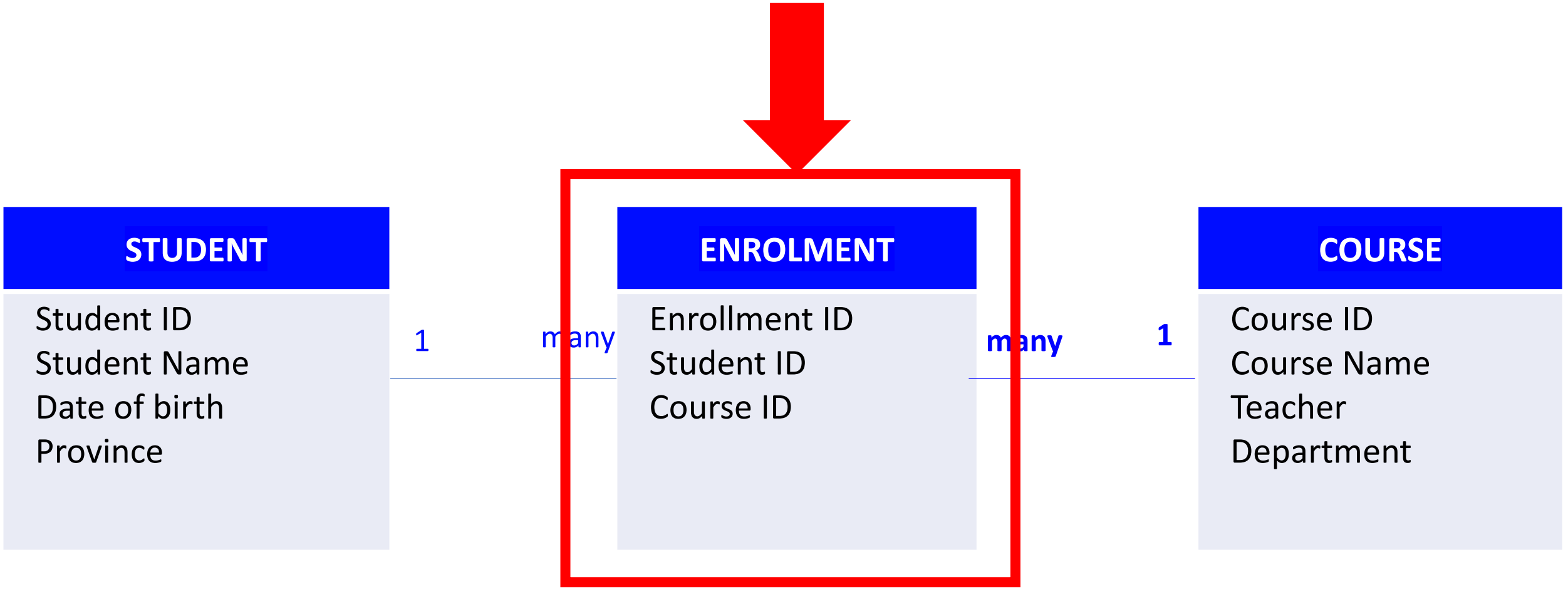
STUDENT		ENROLMENT		COURSE
Student ID Student Name Date of birth Province	1 many	Enrolment ID Student ID Course ID Date	many 1	Course ID Course Name Teacher Department

Many to many relation

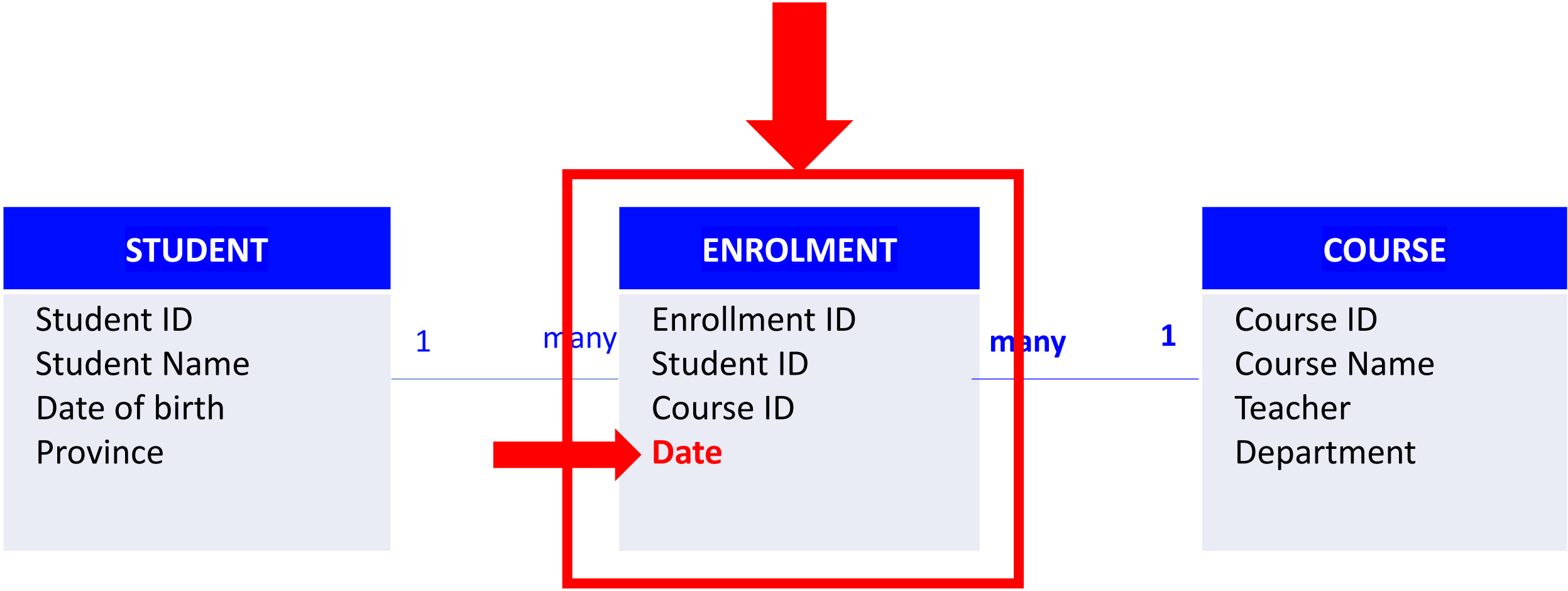
one to many relation between course and enrolments



Enrolment is an **intersection** table

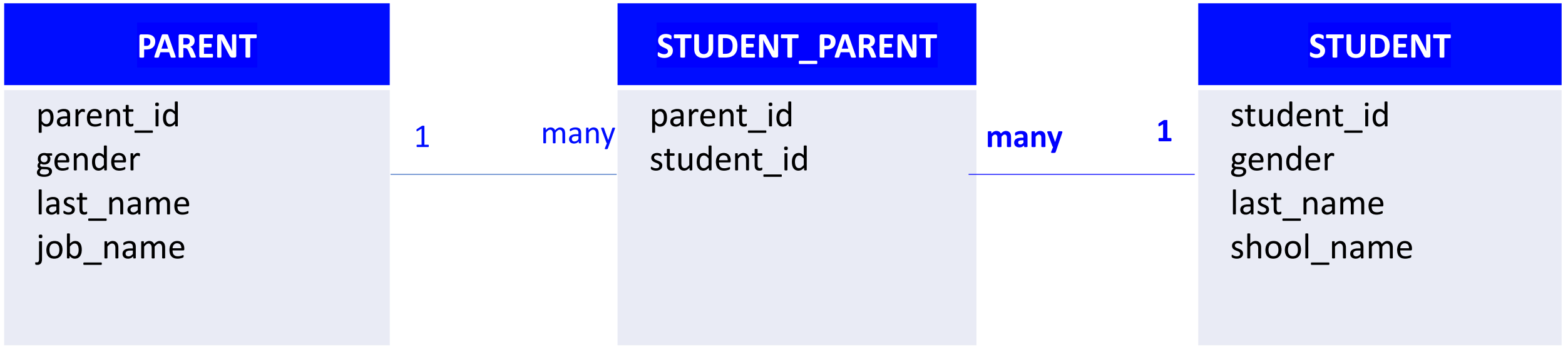


If there is an additional attribute, it is called a **ASSOCIATIVE TABLE**



ACTIVITY 2

10 MIN



1 What is the relation between Students and Parents?

2 The table Student_Parents is called an Intersection table or an Associative table or is it just a normal table? Explain why.

A **primary key** is a unique identifier of an **entity record**

Primary key

Entity record

Stu ID	Student Name	Date of birth	Province	Classroom ID
1001	Lyhour	XXX	XXX	1
1002	Srey Haem	XXX	XXX	1
1003	XXX	XXX	XXX	2
1004	XXX	XXX	XXX	3
1005	XXX	XXX	XXX	2
1006	XXX	XXX	XXX	5

A **foreign key** is a reference to another **entity record**

foreign key

Primary key

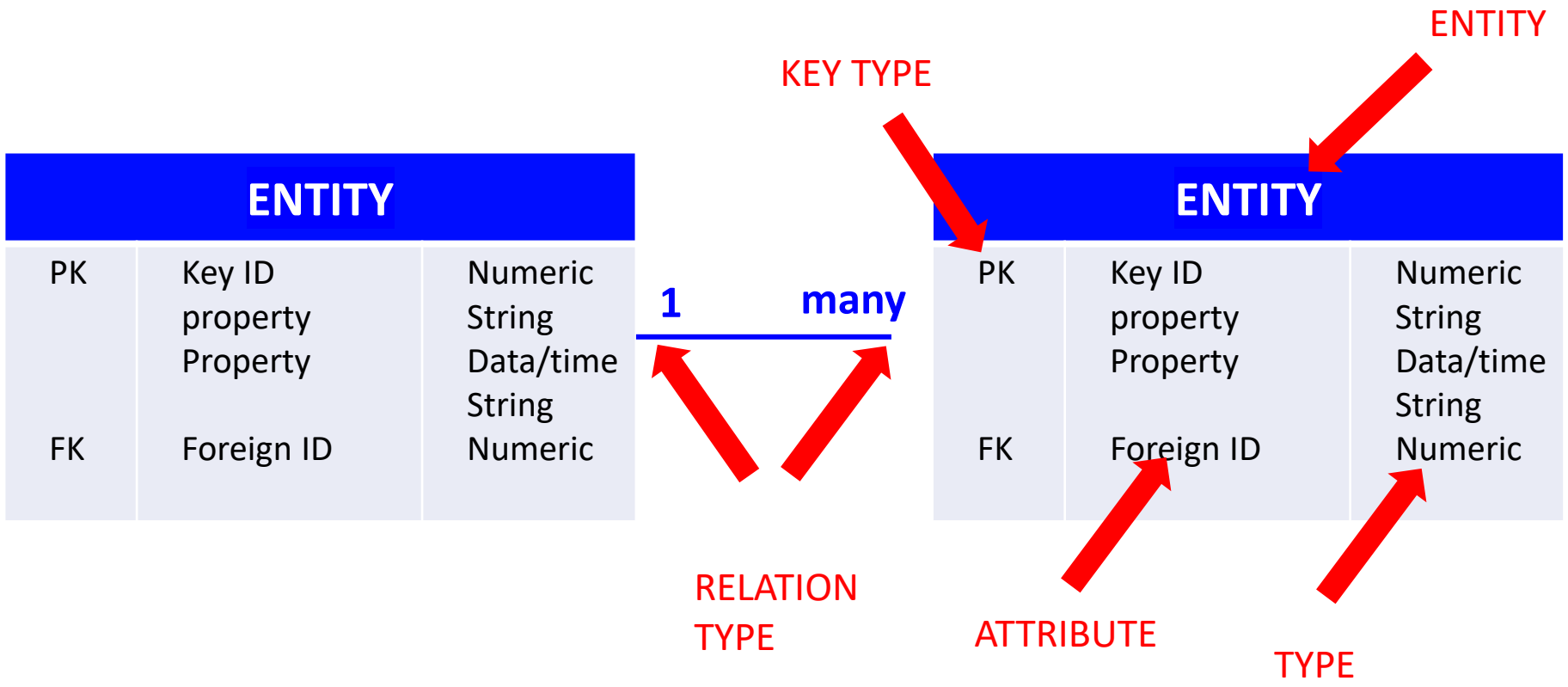
Student ID	Student Name	Date of birth	Province	Classroom ID
1001	Lyhour	XXX	XXX	1
1002	Srey Haem	XXX	XXX	1
1003	XXX	XXX	XXX	2
1004	XXX	XXX	XXX	3
1005	XXX	XXX	XXX	2
1006	XXX	XXX	XXX	5

Classromm ID
1
2
3
4
5
6

It is a primary key in another table

What is a ERD?

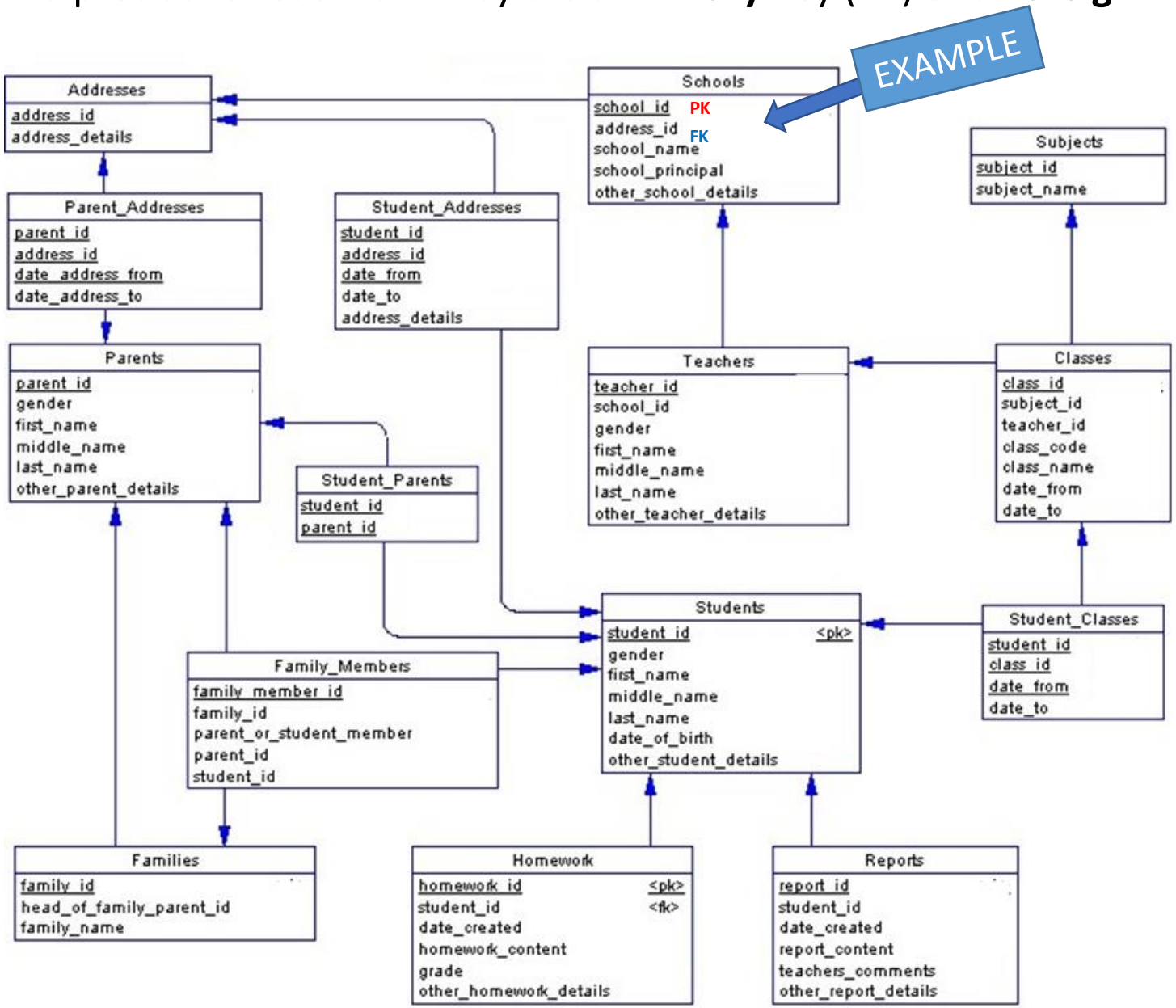
Entity Relational Diagram ?



ACTIVITY 3

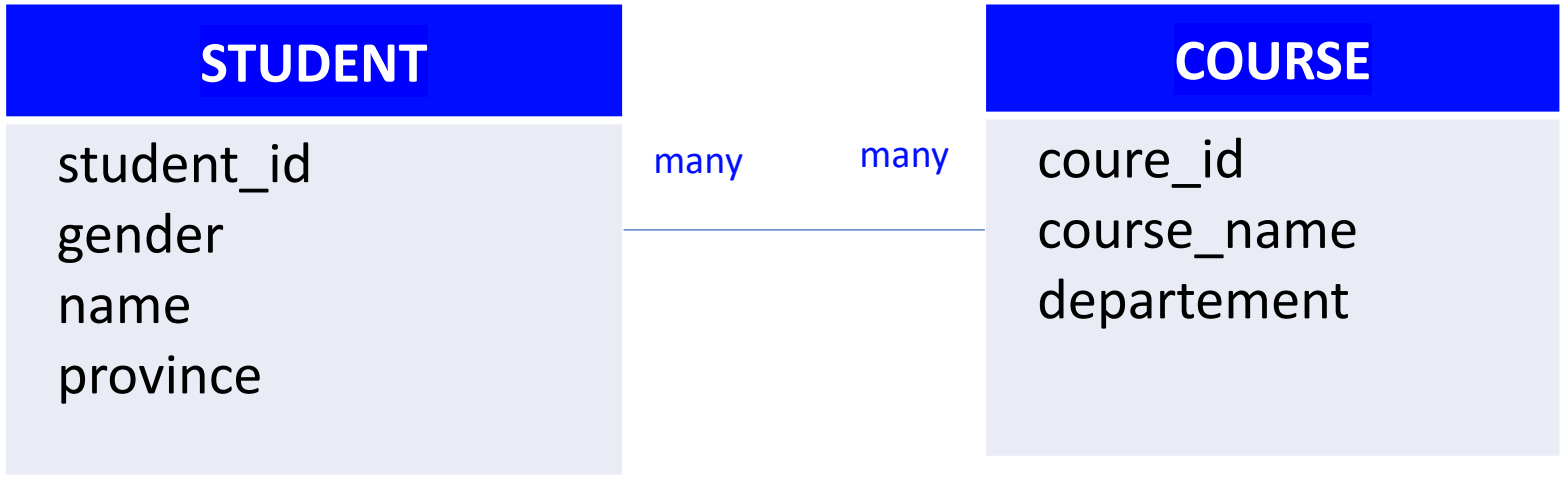
10 MIN

Complete the model to precise for each id if they are a **Primary** Key (PK) or a **Foreign** Key (FK)



ACTIVITY 4

10 MIN



- ✓ Add a new table to manage the MANY to MANY relation ship
- ✓ For each attribute, write the TYPE and for the keys, specify PK or FK

Can you answer to those questions ?

- ✓ Understand the **relation** **many to many** between entities
- ✓ What is a **primary** key ?
- ✓ What is a **foreign** key ?
- ✓ What is a **ERD**?