DB

Relational database 

To complete this course:

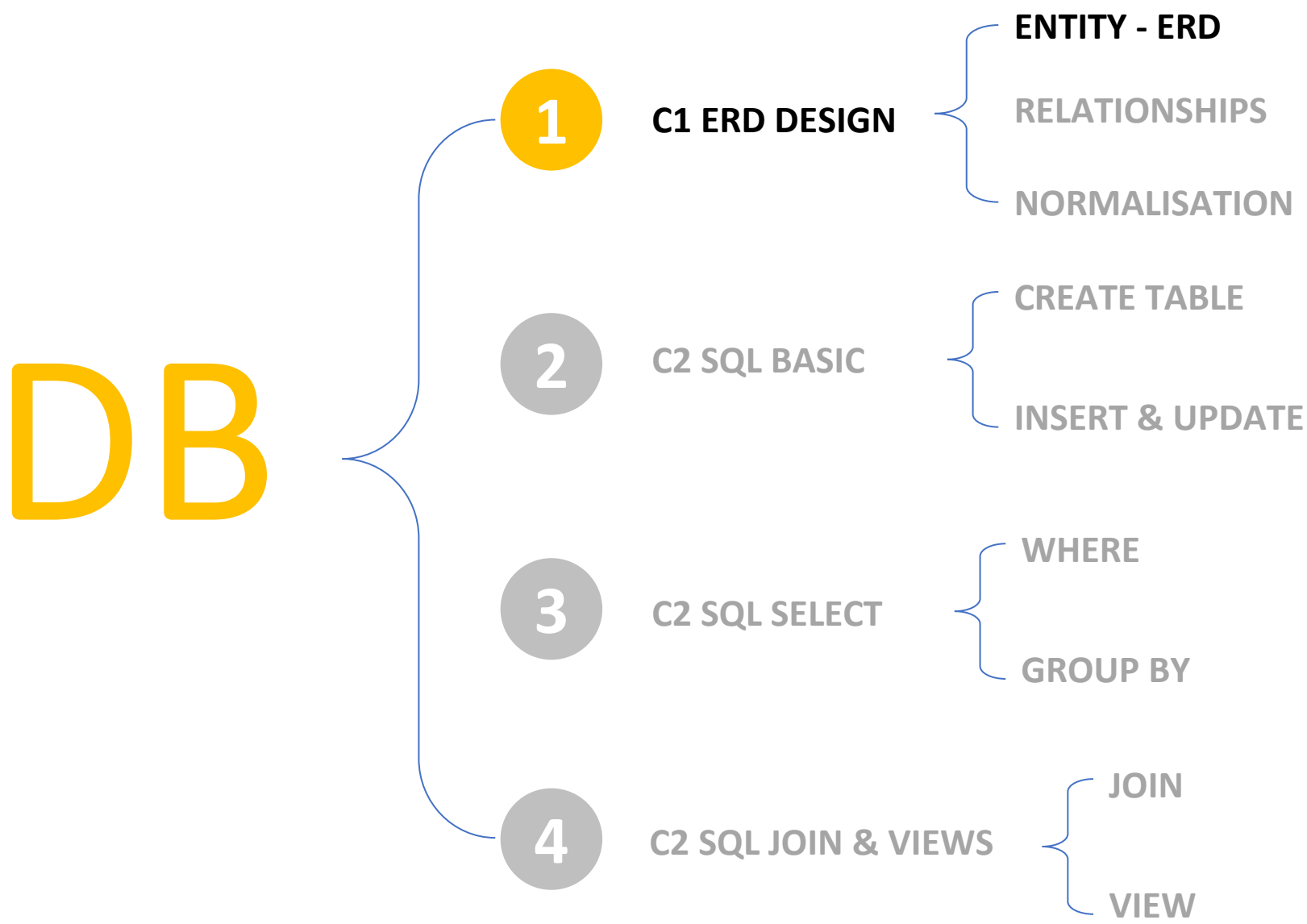
Course Evaluation

Class Participation	**10%**
Practice/Homework/Quiz	**15%**
Midterm exam	**25%**
Final exam	**50%**

Timeline

Start Data	December 2023
End Date	February 2024
Number of Hours	54 h

Database content



OBJECTIVES FOR TODAY

- ✓ The benefits of using **relational database**
- ✓ Identify what is an **entity** **and** an **attribute** of entity
- ✓ Be able to define the **types** of your **attribute**
- ✓ Identify the **relation** **one-many** between two entities

EXPLORE

Team of 3

--- ACTIVITY 01 ---

JS PROJECT (POS SYSTEM)

15 MIN

Discuss in group answer the questions below:

1. How did you **store the data** (products) in your project ?
2. Where you store your products, categories of your project?
3. How to know the product’s category?
4. What is the relation between Product and Category?

Relational Database Management Systems…

…used by the bests:

BATCH 2021

How can we describe a student ?

Student
• Student ID • Name • Gender • Address • Uniform

A table schema describes an entity and its attributes

Table **schema**

Student
• Student ID • Name • Gender • Address • Uniform

A student is an **entity**

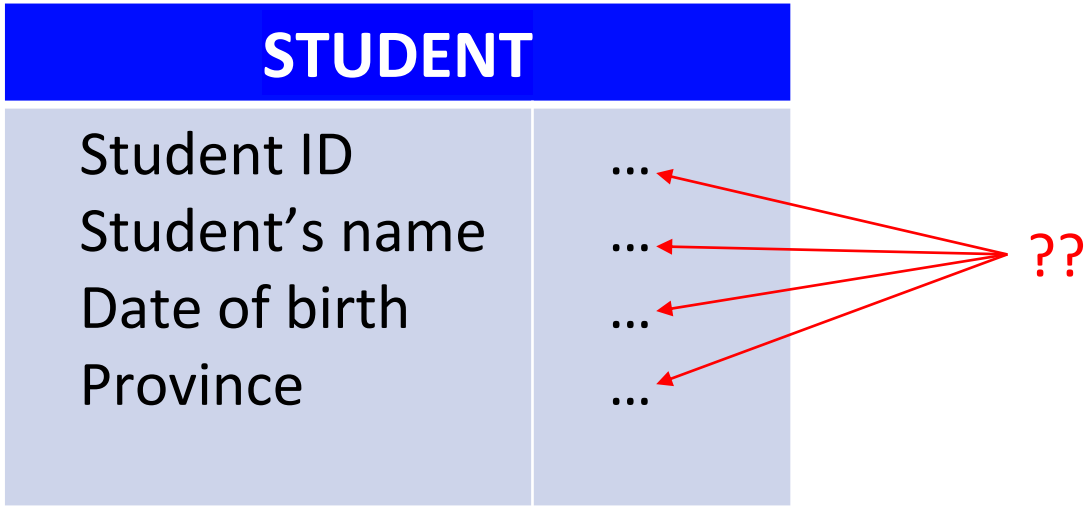
The **attributes** describes the students

EXPLORE

05 MIN

--- ACTIVITY 02 ---

What is the type of each attributes ?



- **STRING ?**
- **NUMERIC ?**
- **DATETIME ?**

From schema to table

CLASSROOM	
Classroom ID	numeric
Section	numeric
Year	Numeric
Department	String

classroom ID	section	year	department
1	A	2	WEP
2	B	2	WEP
3	A	2	SNA
4	A	1	GENERAL
5	B	1	GENERAL
6	C	1	GENERAL

A table is a list of records

Columns are attributes

Row are records

Classroom ID	Section	Year	Department
1	A	2	WEP
2	B	2	WEP
3	A	2	SNA
4	A	1	GENERAL
5	B	1	GENERAL
6	C	1	GENERAL

Synonyms

Table	Row	Column
Relation	Record	Attribute

EXPLORE

10 MIN

--- ACTIVITY 03 ---

Complete the following table with examples of student's data:

STUDENT	

Student ID	Student Name	Date of birth	Province
1	VANN SAMOUL	06 jun 2001	Kampong cham
2	MENG MOA	01 mar 1998	Kampong thom
3	NARONG	02 oct 2001	Kampong thom
4	SAMNAK	11 nov 2003	Preay veng
……	…..	…..	……
6	THEARA	12 12 2001	Bantay mean chey

Relation between student and classroom tables

STUDENT
Student ID
Student Name
Date of birth
Province

CLASSROOM
Classroom ID
Section
Year
Department

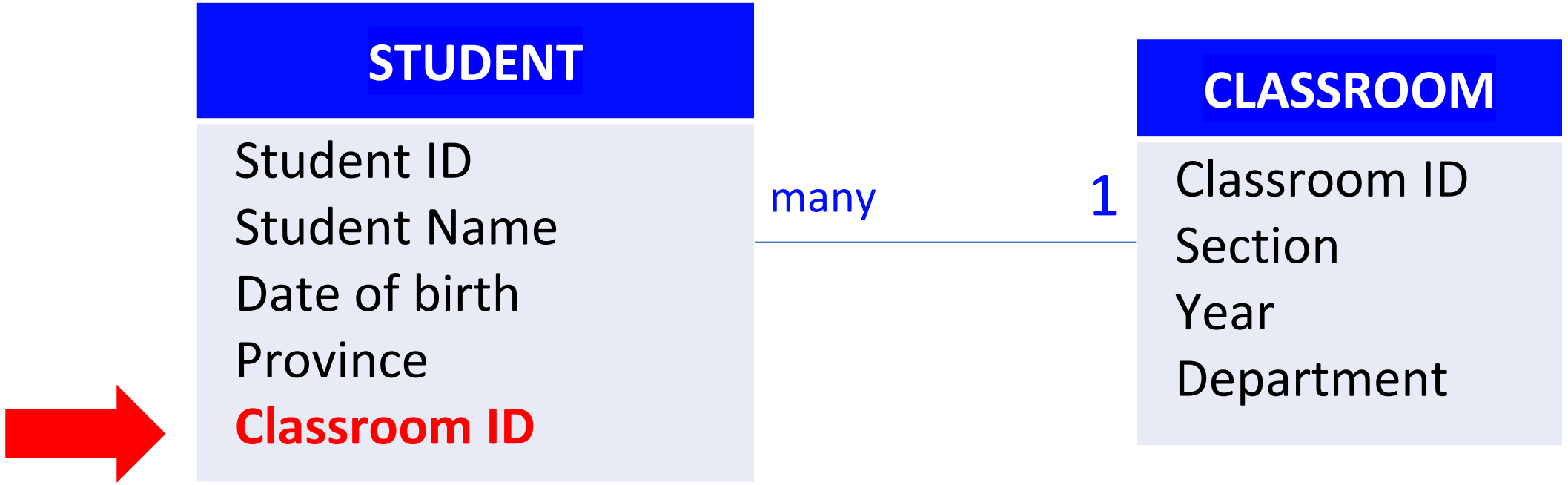
Relation between student and classroom tables

STUDENT
Student ID
Student Name
Date of birth
Province

CLASSROOM
Classroom ID
Section
Year
Department

- ✓ Every students has **one** classroom
- ✓ One classroom has **many** students

One to many relation



Each student keeps the ID of the classroom he/she belong too

EXPLORE

15 MIN

--- ACTIVITY 04 ---

STUDENT

Student ID	Student Name	Date of birth	Province	Classroom ID
1001	CHAM	XX	XX	2
1002	THEARA	XX	XX	1
1003	SREYMOA	XX	XX	2
1004	SOPHY	XX	XX	6
1005	HENG	XX	XX	4
1006	CHHAIYA	XX	XX	5
1007	THEAVY	XX	XX	5

CLASSROOM

Classroom ID	Section	Year	Department
1	A	2	WEP
2	B	2	WEP
3	A	2	SNA
4	A	1	GENERAL
5	B	1	GENERAL
6	C	1	GENERAL

1. How many students are in the 2nd year WEP A classroom?
2. Which classroom CHAM is in?
3. How many students are in SNA?
4. How many students are in first year?

SO NOW CAN YOU ANSWER?

- ✓ What are the benefits of **relational database?**
- ✓ what is an **entity**, what is an **attribute** of entity ?
- ✓ Find 3 examples of the **types** of your **attribute**
- ✓ What is the **relation** **one-many** between two entities mean?