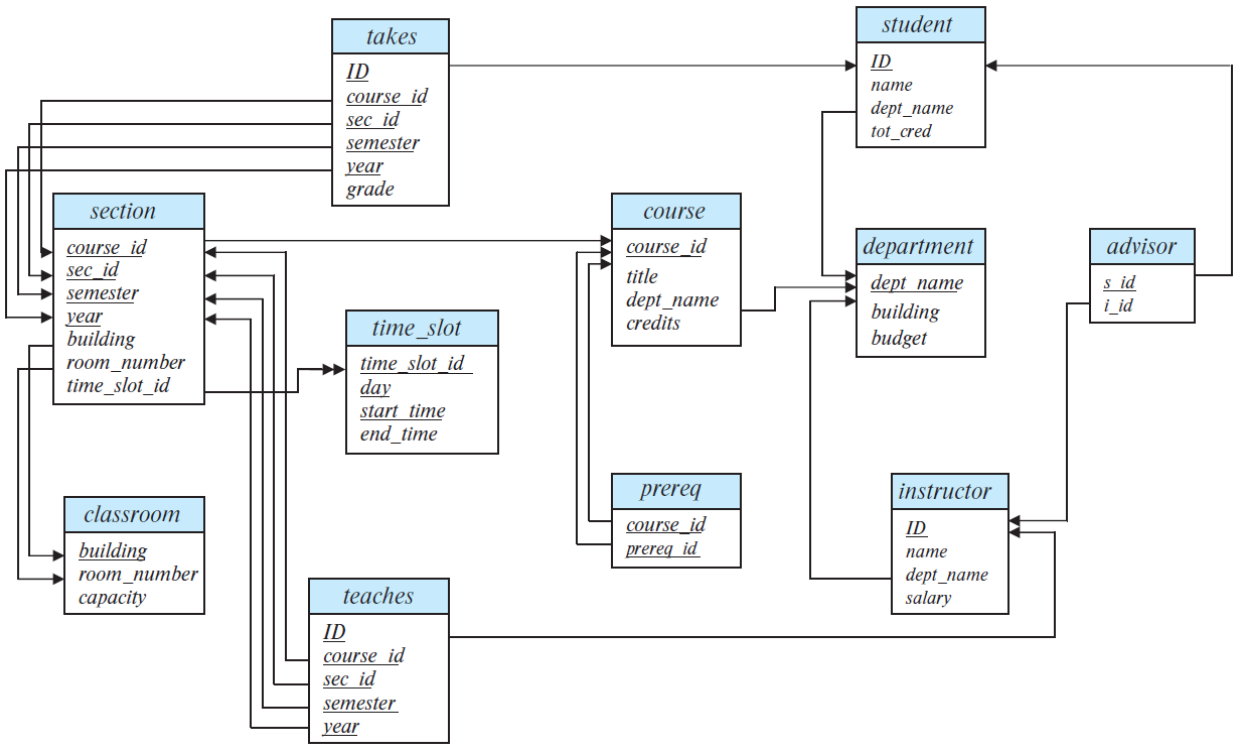
Lab2 assignment: Tables and their data definitions

1. Tables to be defined

In the following diagram, each table is represented by a rectangle. The name of the table is written at the top of the rectangle with a light blue background. Attributes, or columns, are written inside the rectangle.



2. Definitions of each table

a. Classroom

Column	Type	Null?	Comments
Building	Varchar(15)	Not null	Primary key
Room_number	Varchar(7)		Primary key
Capacity	Number(4)		

b. Department

Column	Type	Null?	Comments
Dept_name	Varchar(20)	Not null	Primary key
Building	Varchar(15)		
Budget	Number(12,2)		Budget > 0

c. **Course**

Column	Type	Null?	Comments
Course_id	Varchar(8)	Not null	Primary key
Title	Varchar(50)		
Dept_name	Varchar(20)		References Department(dept_name), on delete set null
Credits	Number(2)		credits> 0

d. **Instructor**

Column	Type	Null?	Comments
ID	Varchar(5)	Not null	Primary key
Name	Varchar(20)	Not null	
Dept_name	Varchar(20)		References Department(dept_name), on delete set null
Salary	Number(8,2)		salary> 29000

e. **Section**

Column	Type	Null?	Comments
Course_id	Varchar(8)	Not null	Primary key, references course(course_id), on delete cascade,
Sec_id	Varchar(8)	Not null	Primary key
Semester	Varchar(6)	Not null	Primary key, in ('Fall', 'Winter', 'Spring', 'Summer')
Year	Number(4)		Primary key
Building	Varchar(15)		references classroom(building), on delete set null
Room_number	Varchar(7)		references classroom(room_number), on delete set null
Time_slot_id	Varchar(4)		

f. **Student**

Column	Type	Null?	Comments
ID	Varchar(5)	Not null	Primary key
Name	Varchar(20)	Not null	
Dept_name	Varchar(20)		References Department(dept_name), on delete set null
Tot_cred	Number(3)		Tot_cred >= 0

g. **Teaches**

Column	Type	Null?	Comments
ID	Varchar(5)	Not null	Primary key, references instructor(ID) on delete cascade
Course_id	Varchar(8)	Not null	Primary key, references section(course_id), on delete cascade
Sec_id	Varchar(8)	Not null	Primary key, references section(sec_id), on delete cascade
Semester	Varchar(6)	Not null	Primary key, references section(semester), on delete cascade
Year	Number(4)	Not null	Primary key references section(year), on delete cascade

h. **Takes**

Column	Type	Null?	Comments
ID	Varchar(5)	Not null	Primary key, references student(ID), on delete cascade
Course_id	Varchar(8)	Not null	Primary key, references section(course_id), on delete cascade
Sec_id	Varchar(8)	Not null	Primary key, references section(sec_id), on delete cascade
Semester	Varchar(6)	Not null	Primary key, references section(semester), on delete cascade
Year	Number(4)		Primary key references section(year), on delete cascade
Grade	Varchar(2)		

i. **Advisor**

Column	Type	Null?	Comments
S_ID	Varchar(5)	Not null	Primary key, references student(ID), on delete cascade
I_ID	Varchar(5)		references instructor(ID), on delete set null

j. **Time_slot**

Column	Type	Null?	Comments
Time_slot_id	Varchar(4)	Not null	Primary key
Day	Varchar(1)		Primary key
Start_hr	Number(2)		Primary key
Start_min	Number(2)		Primary key
End_hr	Number(2)		
End_min	Number(2)		

k. **Prereq**

Column	Type	Null?	Comments
Course_ID	Varchar(8)	Not null	Primary key, references course(course_ID), on delete cascade
Prereq_ID	Varchar(8)	Not null	Primary key, references course(course_ID)

3. Lab submission requirements

Each student should write DDL code to create all of the previous tables on MySQL workbench. After finishing the 11 tables, the database should be exported and uploaded on the blackboard. In details, the following steps should be done:

- Every student should read the definitions of each table and understand them well
- A new database should be created, Name it “LabDB”
- SQL DDL code should be written to create each of the 11 tables. Constraints and keys should be correctly identified
- After finishing the 11 tables completely, the database “LabDB” should be exported, as done in Lab1. A single self-contained file should be exported.
- The exported database SQL file should be uploaded on the associated link of Lab2 on the blackboard
- Note: No data should be added in this lab. Only the definitions of each table should be provided