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Compte Rendu TP1

Exercice 1 :

1.

CREATE TABLE section (

course_id VARCHAR(8),

sec_id VARCHAR(8),

semester VARCHAR(6) CHECK (semester IN ('Fall', 'Winter', 'Spring', 'Summer')),

section_year NUMERIC(4,0),

building VARCHAR(15),

room_number VARCHAR(7),
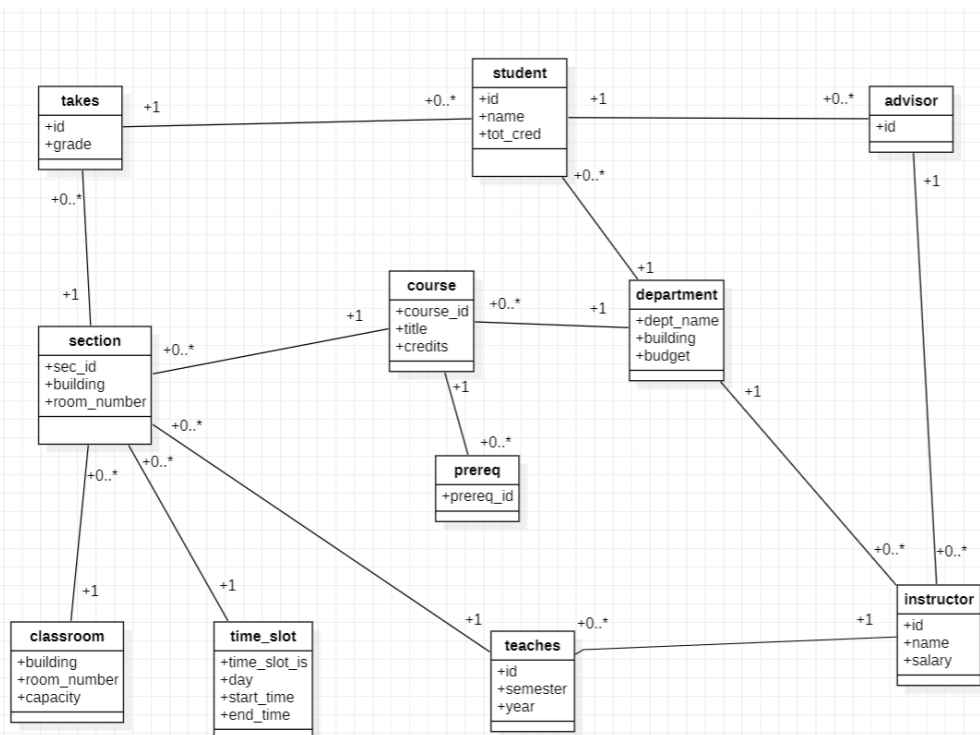
time_slot_id VARCHAR(4),

PRIMARY KEY (course_id, sec_id, semester, section_year),

FOREIGN KEY (course_id) REFERENCES course ON DELETE CASCADE,

FOREIGN KEY (building, room_number) REFERENCES classroom ON DELETE CASCADE

);

2.

4. insert into course values ('BIO-101', 'Intro. to Biology', 'Biology', '4');

Exercice 2 :

1.
La structure de la table
Desc section;
Le contenu :
select * from section;

2.
SELECT c.course_id, c.title AS course_title, c.dept_name AS department, c.credits,
s.sec_id, s.semester, s.section_year, s.building, s.room_number, ts.time_slot_day,
ts.start_hr, ts.start_min, ts.end_hr, ts.end_min
FROM course c
JOIN
section s ON c.course_id = s.course_id
JOIN
time_slot ts ON s.time_slot_id = ts.time_slot_id

3.
SELECT c.course_id, c.title AS course_title, c.dept_name AS department, c.credits,
          d.dept_name AS departement_name, d.building, d.budget
FROM department d
JOIN course c ON c.dept_name = d.dept_name

4.
SELECT dept_name as Nom_Departement,
          budget from department

5.
select   e.teacher_name,d.dept_name
from   department d
join   teacher e.dept_name = d.dept_name

6.
select teacher_name, salary
from teacher
where salary > 65000;

7.
select teacher_name, salary
from teacher
where salary >= 55000 and salary <= 85000;

8. select distinct dept_name
from teacher;

9. select teacher_name
from teacher
where dept_name = 'Comp. Sci.' and salary > 65000;

10. select c.course_id, c.title AS course_title, c.dept_name AS department, c.credits,

s.sec_id, s.semester, s.section_year, s.building, s.room_number, ts.time_slot_day,
ts.start_hr, ts.start_min, ts.end_hr, ts.end_min
from course c
join section s ON c.course_id = s.course_id
join time_slot ts ON s.time_slot_id = ts.time_slot_id
where s.semester = 'Spring' and s.section_year = 2010

11. SELECT title
FROM course
WHERE dept_name = 'Comp. Sci.'   AND credits > 3;

12. select e.teacher_name, d.dept_name, d.building
from department d
 join teacher e on e.dept_name = d.dept_name

13. select distinct s.student_name
from student s
join takes t ON s.student_id = t.takes_id
join course c ON t.course_id = c.course_id
where c.dept_name = 'Comp. Sci.';

14.
select distinct s.student_name
from student s
join takes t ON s.student_id = t.takes_id
JOIN section sec ON t.course_id = sec.course_id AND t.sec_id = sec.sec_id AND
t.semester = sec.semester AND t.takes_year = sec.section_year
JOIN teaches te ON sec.course_id = te.course_id AND sec.sec_id = te.sec_id AND
sec.semester = te.semester AND sec.section_year = te.teaches_year
JOIN teacher e ON te.teaches_id = e.teacher_id
WHERE e.teacher_name = 'Einstein';

15.
select c.course_id, te.teacher_name
from course c
join teaches t ON c.course_id = t.course_id
join teacher te ON t.teaches_id = te.teacher_id;

16.
select   c.course_id, c.title AS course_title,count(t.takes_id) AS num_students
from   section s
join   course c ON s.course_id = c.course_id
left join takes t ON s.course_id = t.course_id AND s.sec_id = t.sec_id AND s.semester =
t.semester AND s.section_year = t.takes_year
where s.semester = 'Spring' AND s.section_year = 2010
group by c.course_id, c.title, s.sec_id, s.semester, s.section_year

17.
```
SELEC d.dept_name, MAX(t.salary) AS max_salary
FROM department d
JOIN teacher t ON d.dept_name = t.dept_name
GROUP BY d.dept_name
```

18.
```
select course_id, sec_id, semester, takes_year, count(takes_id) as nombre_inscrits
from takes
group by course_id, sec_id, semester, takes_year
```

19.
```
select building, count(*) as nombre_total_cours
from section
where (semester = 'Fall' and section_year = 2009)
   or (semester = 'Spring' and section_year = 2010)
group by building
```

20.
```
select d.dept_name, count(*) as nombre_total_cours
from section s
join course c on s.course_id = c.course_id
join department d on c.dept_name = d.dept_name
where s.building = d.building
group by d.dept_name
```

21.
```
select c.title, t.teacher_name
from teaches ts
join section s on ts.course_id = s.course_id and ts.sec_id = s.sec_id and ts.semester =
s.semester and ts.teaches_year = s.section_year
join course c on s.course_id = c.course_id
join teacher t on ts.teaches_id = t.teacher_id
```
22.
```
select semester, count(*) as nombre_total_cours
from section
where semester in ('Summer', 'Fall', 'Spring')
group by semester
```

23.
```
select s.student_id, s.student_name, sum(c.credits) as total_credits_obtenus
from takes t
join course c on t.course_id = c.course_id
join student s on t.takes_id = s.student_id
where c.dept_name <> s.dept_name
group by s.student_id, s.student_name
```

24.
```
select d.dept_name, sum(c.credits) as total_credits
from section s
join course c on s.course_id = c.course_id
join department d on c.dept_name = d.dept_name
group by d.dept_name
order by total_credits desc;
```