

Course	EECS 3421
Name	Meet Patel
Student ID	3421
Project	1B

CREATE TABLE STATEMENTS

```
create table student(  
  student_ID          int NOT NULL,  
  student_name        varchar(20),  
  tot_cred            int,  
  instructor_id       int NOT NULL,  
  dept_name           varchar(30) NOT NULL,  
  PRIMARY KEY(student_ID),  
  FOREIGN KEY(instructor_id) references instructor,  
  FOREIGN KEY(dept_name) references department  
);
```

```
create table department(  
  dept_name           varchar(30) NOT NULL,  
  building            varchar(20),  
  budget              int,  
  PRIMARY KEY(dept_name)  
);
```

```
create table instructor(  
  instructor_id       int NOT NULL,  
  instructor_name     varchar(20),  
  salary              int,  
  dept_name           varchar(30) NOT NULL,  
  PRIMARY KEY(instructor_id),  
  FOREIGN KEY(dept_name) references department  
);
```

```
create table course(  
  course_id           varchar(10) NOT NULL,  
  title               varchar(40),  
  credits             int,  
  dept_name           varchar(30) NOT NULL,  
  PRIMARY KEY(course_id),  
  FOREIGN KEY(dept_name) references department  
);
```

```
create table prereq(  
  course_id           varchar(10) NOT NULL,  
  prereq_id           varchar(10) NOT NULL,  
  PRIMARY KEY(course_id, prereq_id),  
  FOREIGN KEY(course_id) references course,  
  FOREIGN KEY(prereq_id) references course  
);
```

```

create table section(
course_id          varchar(10) NOT NULL,
sec_id            char(1) NOT NULL,
semester          varchar(10) NOT NULL,
year              int NOT NULL,
building          varchar(20) NOT NULL,
room_number int NOT NULL,
PRIMARY KEY(course_id,sec_id, semester, year),
FOREIGN KEY(course_id) references Course,
FOREIGN KEY(building, room_number) references classroom
);

```

```

create table classroom(
building          varchar(20) NOT NULL,
room_number      int NOT NULL,
capacity         int,
PRIMARY KEY(building, room_number)
);

```

```

create table time_slot(
time_slot_id      int NOT NULL,
day               varchar(7),
start_time        time,
end_time          time,
PRIMARY KEY(time_slot_id)
);

```

```

create table takes(
student_ID        int NOT NULL,
course_id         varchar(10) NOT NULL,
sec_id           char(1) NOT NULL,
semester          varchar(10) NOT NULL,
year              int NOT NULL,
grade            int,
PRIMARY KEY(student_ID,course_id,sec_id,semester,year),
FOREIGN KEY(student_ID) references student,
FOREIGN KEY(course_id,sec_id,semester,year) references section
);

```

```

create table teaches(
instructor_id     int NOT NULL,
course_id         varchar(10) NOT NULL,
sec_id           char(1) NOT NULL,
semester          varchar(10) NOT NULL,
year              int NOT NULL,
PRIMARY KEY(instructor_ID,course_id,sec_id,semester,year),
FOREIGN KEY(instructor_ID) references instructor,
FOREIGN KEY(course_id,sec_id,semester,year) references section
);

```

```

create table sec_time_slot(
course_id          varchar(10) NOT NULL,
sec_id            char(1) NOT NULL,
semester          varchar(10) NOT NULL,
year             int NOT NULL,
time_slot_id      int NOT NULL,
PRIMARY KEY(time_slot_id,course_id,sec_id,semester,year),
FOREIGN KEY(course_id,sec_id,semester,year) references section,
FOREIGN KEY(time_slot_id) references time_slot
);

```

Select * from T query for each table created

```
select * from student
```

STUDENT_ID	STUDENT_NAME	TOT_CRED	INSTRUCTOR_ID	DEPT_NAME
4885251	John Malkovich	18	143814	Lassonde School of Engineering
0	Filler	6	143814	Department of Mathematics

2 record(s) selected.

```
select * from department
```

DEPT_NAME	BUILDING	BUDGET
Lassonde School of Engineering	Lassonde	20000000
Department of Mathematics	Curtis Lecture Halls	20000000

2 record(s) selected.

```
select * from instructor
```

INSTRUCTOR_ID	INSTRUCTOR_NAME	SALARY	DEPT_NAME
143814	Tyler Blevins	180000	Lassonde School of Engineering
149415	Thang Phan	140000	Department of Mathematics
146328	Jessica Goch	140000	Lassonde School of Engineering

3 record(s) selected.

```
select * from course
```

COURSE_ID	TITLE	CREDITS	DEPT_NAME
EECS 1012	Introduction to Web-Development	3	Lassonde School of Engineering
EECS 1022	Introduction to Software Development	3	Lassonde School of Engineering
MATH 1013	Applied Calculus I	3	Department of Mathematics
MATH 1014	Applied Calculus II	3	Department of Mathematics
MATH 1025	Applied Linear Algebra	3	Department of Mathematics
EECS 1019	Discrete Math for Computer Science	3	Lassonde School of Engineering

6 record(s) selected.

```
select * from prereq
```

COURSE_ID	PREREQ_ID
EECS 1022	EECS 1012
MATH 1014	MATH 1013

2 record(s) selected.

```
select * from section
```

COURSE_ID	SEC_ID	SEMESTER	YEAR	BUILDING	ROOM_NUMBER
EECS 1012	M	fall	2017	Lassonde	2012
MATH 1013	B	fall	2017	Curtis Lecture Halls	1010
EECS 1019	E	fall	2017	Lassonde	1010
MATH 1014	M	winter	2018	Curtis Lecture Halls	1010
EECS 1022	N	winter	2018	Lassonde	2012
MATH 1025	N	winter	2018	Curtis Lecture Halls	1010

6 record(s) selected.

```
select * from teaches
```

INSTRUCTOR_ID	COURSE_ID	SEC_ID	SEMESTER	YEAR
143814	EECS 1012	M	fall	2017
143814	EECS 1022	N	winter	2018
146328	EECS 1019	E	fall	2017
146328	MATH 1025	N	winter	2018
149415	MATH 1013	B	fall	2017
149415	MATH 1014	M	winter	2018

6 record(s) selected.

```
select * from sec_time_slot
```

COURSE_ID	SEC_ID	SEMESTER	YEAR	TIME_SLOT_ID
MATH 1013	B	fall	2017	2
MATH 1025	N	winter	2018	2
MATH 1014	M	winter	2018	6
EECS 1019	E	fall	2017	10
EECS 1012	M	fall	2017	19
EECS 1022	N	winter	2018	19

6 record(s) selected.

```
select * from classroom
```

BUILDING	ROOM_NUMBER	CAPACITY
Lassonde	1010	50
Lassonde	2012	100
Curtis Lecture Halls	1010	200
Life Sciences	2003	30

4 record(s) selected.

```
select * from time_slot
```

TIME_SLOT_ID	DAY	START_TIME	END_TIME
2	MW	19:00:00	21:30:00
6	MWF	14:30:00	15:30:00
10	T	19:00:00	22:00:00
19	TR	09:00:00	10:00:00

4 record(s) selected.

```
select * from takes
```

STUDENT_ID	COURSE_ID	SEC_ID	SEMESTER	YEAR	GRADE
4885251	EECS 1012	M	fall	2017	94
4885251	MATH 1013	B	fall	2017	77
4885251	EECS 1019	E	fall	2017	70
4885251	MATH 1014	M	winter	2018	67
4885251	EECS 1022	N	winter	2018	74
4885251	MATH 1025	N	winter	2018	72
0	MATH 1014	M	winter	2018	67
0	EECS 1022	N	winter	2018	74
0	MATH 1025	N	winter	2018	72

9 record(s) selected.

The SQL query about John Malkovich and its result

```

select student.student_name, course.title, section.sec_id, instructor.instructor_name,
section.semester, section.year, time_slot.day, time_slot.start_time, time_slot.end_time,
section.building, section.room_number
from takes, student, section, course, teaches, instructor, time_slot, sec_time_slot
where student.student_name = 'John Malkovich'
and student.student_id = takes.student_id          and takes.sec_id = section.sec_id
and takes.semester = section.semester              and takes.year = section.year
and takes.course_id = section.course_id            and section.course_id = course.course_id
and section.sec_id = teaches.sec_id                and section.semester = teaches.semester
and section.year = teaches.year                    and section.course_id = teaches.course_id
and teaches.instructor_id = instructor.instructor_id and section.sec_id = sec_time_slot.sec_id
and section.semester = sec_time_slot.semester      and section.year = sec_time_slot.year
and section.course_id = sec_time_slot.course_id
and sec_time_slot.time_slot_id = time_slot.time_slot_id;

```

Exact image, but not clear (too small)

STUDENT_NAME	TITLE	SEC_ID	INSTRUCTOR_NAME	SEMESTER	YEAR	DAY	START_TIME	END_TIME	BUILDING	ROOM_NUMBER
John Malkovich	Introduction to Web-Development	M	Tyler Blevins	fall	2017	TR	09:00:00	10:00:00	Lassonde	2012
John Malkovich	Introduction to Software Development	N	Tyler Blevins	winter	2018	TR	09:00:00	10:00:00	Lassonde	2012
John Malkovich	Discrete Math for Computer Science	E	Jessica Goch	fall	2017	T	19:00:00	22:00:00	Lassonde	1010
John Malkovich	Applied Linear Algebra	N	Jessica Goch	winter	2018	MW	19:00:00	21:30:00	Curtis Lecture Halls	1010
John Malkovich	Applied Calculus I	B	Thang Phan	fall	2017	MW	19:00:00	21:30:00	Curtis Lecture Halls	1010
John Malkovich	Applied Calculus II	M	Thang Phan	winter	2018	MWF	14:30:00	15:30:00	Curtis Lecture Halls	1010

6 record(s) selected.

Split in half for visibility

STUDENT_NAME	TITLE	SEC_ID	INSTRUCTOR_NAME
John Malkovich	Introduction to Web-Development	M	Tyler Blevins
John Malkovich	Introduction to Software Development	N	Tyler Blevins
John Malkovich	Discrete Math for Computer Science	E	Jessica Goch
John Malkovich	Applied Linear Algebra	N	Jessica Goch
John Malkovich	Applied Calculus I	B	Thang Phan
John Malkovich	Applied Calculus II	M	Thang Phan

6 record(s) selected.

SEMESTER	YEAR	DAY	START_TIME	END_TIME	BUILDING	ROOM_NUMBER
fall	2017	TR	09:00:00	10:00:00	Lassonde	2012
winter	2018	TR	09:00:00	10:00:00	Lassonde	2012
fall	2017	T	19:00:00	22:00:00	Lassonde	1010
winter	2018	MW	19:00:00	21:30:00	Curtis Lecture Halls	1010
fall	2017	MW	19:00:00	21:30:00	Curtis Lecture Halls	1010
winter	2018	MWF	14:30:00	15:30:00	Curtis Lecture Halls	1010