

Nested Queries / Sub Queries

```
/*
Q1. Display all students that are living in given city.
```

```
projection: student
```

criteria: address

*** /**

```
select *
```

from student

```
where address_id IN (select id
                     from address
                     where city='mumbai');
```

/ *

```
1  harry potter      harry@hogwards.com  1
```

```
2  ronald weasley  ronald@hogwards.com 1
```

* /

/ *

Q3. Display courses that belong to given department

```
projection:courses
```

criteria:department

* /

```
select *
```

from course

```
where department_id IN (select id
                        from department
                        where name='DEV');
```

/ *

Q5. Display students that have enrolled in given course.

```
projection: student
```

criteria: course

* /

```
select *
```

from student

[illegible]

```

/*
Q6. Display students associated with given department.
projection: student
criteria: department
*/
select *
from student
where id IN (select student_id
              from student_course
              where course_id IN (select id
                                   from course
                                   where department_id IN (select id
                                                            from department
                                                            where name='IT'))));

/*
Q8. Display students that have enrolled before given date
projection: student
criteria: student_course
*/
select *
from student
where id IN (select student_id
              from student_course
              where date_of_enrollment < '2024-2-5');

/*
Q9. Display courses for which the discount of more than 5% is given.
projection: course
criteria: student_course
*/
select *
from course
where id IN (select course_id
              from student_course
              where discount > 5);

/*
-- display all courses that have fee more than average fee of all courses.
projection: course
condition: course(more than average fee of all courses.)
*/

select AVG(fee)
from course; -- 8750

select *
from course
where fee > (select AVG(fee)
              from course);

```

```

/*
-- display all courses that have discount more than average discount of all courses.
projection: course
criteria: student_course
*/

-- average discount of all courses
select AVG(discount) from student_course; -- 10

select course_id
from student_course
where discount > (select AVG(discount) from student_course); -- 2

select *
from course
where id IN (select course_id
             from student_course
             where discount > (select AVG(discount)
                               from student_course));

```