

QUERY:

GROUP BY

1. Contare quanti iscritti ci sono stati ogni anno;

```
SELECT YEAR(enrolment_date),COUNT(*)  
FROM students  
GROUP BY YEAR(enrolment_date);
```

2. Contare gli insegnanti che hanno l'ufficio nello stesso edificio

```
SELECT office_address, COUNT(id)  
FROM teachers  
GROUP BY office_address;
```

3. Calcolare la media dei voti di ogni appello d'esame

```
SELECT exam_id, AVG(vote)  
FROM exam_student  
GROUP BY exam_id;
```

4. Contare quanti corsi di laurea ci sono per ogni dipartimento

```
SELECT department_id, count(id)  
FROM degrees  
GROUP BY department_id;
```

JOIN

1. Selezionare tutti gli studenti iscritti al Corso di Laurea in Economia

```
SELECT students.*  
FROM degrees  
JOIN students  
on degrees.id = students.degree_id WHERE degrees.name like "Corso di Laurea in economia";
```

2. Selezionare tutti i Corsi di Laurea del Dipartimento di Neuroscienze

```
SELECT *  
FROM departments  
JOIN degrees  
on departments.id = degrees.department_id  
WHERE departments.name like "Dipartimento di Neuroscienze";
```

3. Selezionare tutti i corsi in cui insegna Fulvio Amato (id=44)

```
SELECT courses.name as "Corsi_insegnati_da_Fulvio_Amato"
```

```
FROM teachers
    JOIN course_teacher
        on teachers.id = course_teacher.teacher_id
    JOIN courses
        on courses.id = course_teacher.course_id
WHERE teachers.name like "Fulvio" and surname like "amato";
```

4. Selezionare tutti gli studenti con relativo corso di laurea e relativo dipartimento, in ordine alfabetico per cognome e nome

```
SELECT students.*,degrees.name as "Nome_corso",departments.name as "Nome_dipartimento"
FROM students
    JOIN degrees
        on degrees.id = students.degree_id
    JOIN departments
        on departments.id = degrees.department_id
ORDER BY students.name,students.surname;
```

5. Selezionare tutti i corsi di laurea con i relativi corsi e insegnanti

```
SELECT courses.*, degrees.name as 'nomeCorso',teachers.name as
'NomeDocente',teachers.surname as 'CognomeDocente'
FROM degrees
JOIN courses
    ON degrees.id = courses.degree_id
JOIN course_teacher
    ON courses.id = course_teacher.course_id
JOIN teachers
    ON course_teacher.teacher_id = teachers.id;
```

6. Selezionare tutti i docenti che insegnano nel Dipartimento di Matematica (54)

```
SELECT DISTINCT teachers.*
FROM teachers
    JOIN course_teacher
        on teachers.id = course_teacher.teacher_id
    JOIN courses
        ON courses.id = course_teacher.course_id
    JOIN degrees
        on degrees.id = courses.degree_id
    JOIN departments
        on departments.id = degrees.department_id
WHERE departments.name like "Dipartimento di Matematica";
```

7. BONUS: Selezionare per ogni studente quanti tentativi d'esame ha sostenuto per superare ciascuno dei suoi esami

```
SELECT students.name,students.surname,courses.name as 'nome corso', count(courses.id)
FROM students
JOIN exam_student
    on exam_student.student_id = students.id
join exams
    on exams.id = exam_student.exam_id
JOIN courses
    ON courses.id = exams.course_id
GROUP BY students.name,students.surname,courses.name;
```