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(*) AS "Numero insegnanti"
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(*)
FROM `degrees`
GROUP BY department_id;
```

JOIN

1. Selezionare tutti gli studenti iscritti al Corso di Laurea in Economia:
```
SELECT students.*
FROM students
JOIN degrees ON students.degree_id = degrees.id
WHERE degrees.name LIKE "Corso di Laurea in Economia";
```

2. Selezionare tutti i Corsi di Laurea del Dipartimento di Neuroscienze:
```
SELECT degrees.*
FROM degrees
JOIN departments ON degrees.department_id = departments.id
WHERE departments.name = "Dipartimento di Neuroscienze";
```

3. Selezionare tutti i corsi in cui insegna Fulvio Amato (id=44):
```
SELECT courses.*
FROM courses
JOIN course_teacher ON courses.id = course_teacher.course_id
JOIN teachers ON course_teacher.teacher_id = teachers.id
WHERE teachers.name = "fulvio" AND teachers.surname = "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, departments.name
FROM students
JOIN degrees ON students.degree_id = degrees.id
JOIN departments ON degrees.department_id = departments.id
ORDER BY students.surname, students.name;
```

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

```
SELECT degrees.*, courses.*, teachers.*
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
ORDER BY degrees.name;
```

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

```
SELECT teachers.*, departments.name
FROM teachers
JOIN course_teacher ON teachers.id = course_teacher.teacher_id
JOIN courses ON course_teacher.course_id = courses.id
JOIN degrees ON courses.degree_id = degrees.id
JOIN departments ON degrees.department_id = departments.id
WHERE departments.name = "Dipartimento di Matematica"
GROUP BY teachers.id
ORDER BY teachers.surname
```

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

```
SELECT students.id, students.surname, students.name, students.registration_number,
courses.id, courses.name AS "exam_name", COUNT(*) AS "tentativi_esami"
FROM `students`
JOIN exam_student ON students.id = exam_student.student_id
JOIN exams ON exam_student.exam_id = exams.id
JOIN courses ON exams.course_id = courses.id
GROUP BY students.id, courses.id
ORDER BY students.surname, students.name
```