- 1. List the members of your group below. Underline your name.
- 2. Consider a database with relations Students(id, name, year), Courses(id, title, ta), and Enrolls(student, course, credits). A tuple $(i, n, y) \in$ Students denotes a student with student-identifier i, name n, and year y. A tuple $(i, t, a) \in$ Courses denotes a course with course-identifier i, title t, and whose teaching assistant's student-identifier is a. A tuple $(s, c, r) \in$ Enrolls denotes the enrollment of the student with identifier s in the class with identifier c, for r credits.

We say student t is a TA of student s, for r credits, if s is enrolled for r credits in a course whose TA is t. We say a TA t is responsible for r credits if r is the sum of credits of all student enrollments in all courses whose TA is t.

Write a SQL statement to create a view that provides the names and IDs of the TAs who are the TAs of the maximum number of students for r credits, for each distinct value of r occurring in the database.

3.	Write an extended algebra query that is equivalent to the query of Question 2.	

4.	4. Prove or disprove: Bag intersection may be expre	essed using bag union ar	nd difference
5.	5. Provide formal definitions of each of the bag algorous product, union, difference.	ebra operators: selection	a, projection

6.	. Provide expressions for the minimum and maximum cardinalities of the result of each of the operators of Question 5 as a function of the cardinalities of its operands. Justify your answers.		