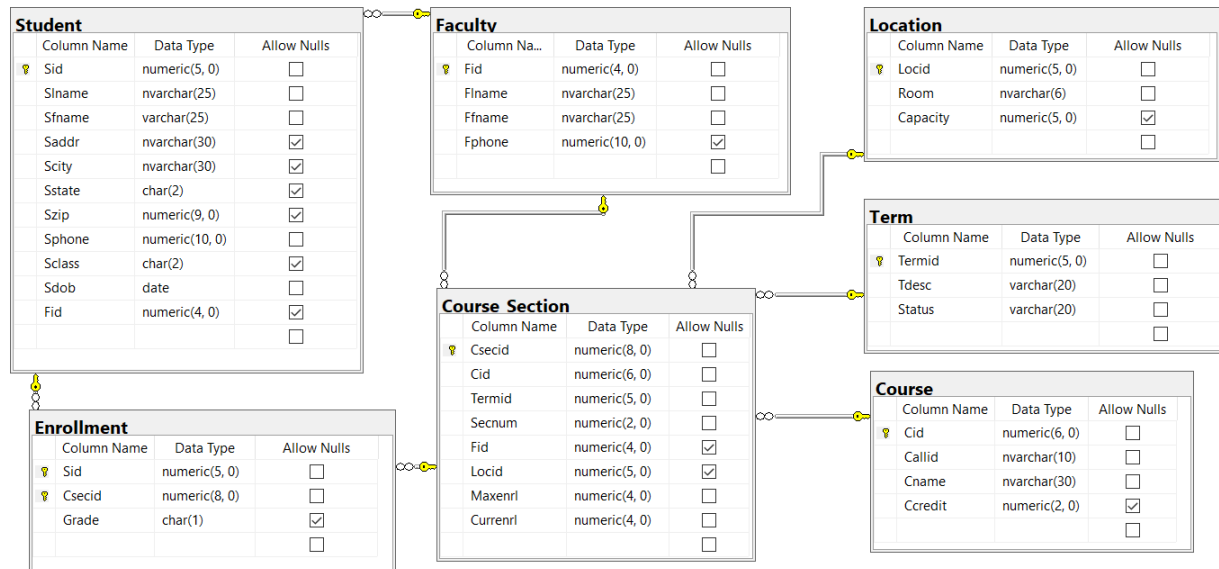Lab 4: Group Functions and Subqueries

Lab 4 will introduce the concept of group functions and subqueries to meet more complex report requirements.
• Lab Report (Answer Sheet) containing both the student-created SQL command(s) for each exercise, and the output showing the results obtained. Be sure your name is on the file.

Student

Column Name	Data Type	Allow Nulls
🔑 Sid	numeric(5, 0)	☐
Slname	nvarchar(25)	☐
Sfname	varchar(25)	☐
Saddr	nvarchar(30)	☑
Scity	nvarchar(30)	☑
Sstate	char(2)	☑
Szip	numeric(9, 0)	☑
Sphone	numeric(10, 0)	☐
Sclass	char(2)	☑
Sdob	date	☐
Fid	numeric(4, 0)	☑
		☐

Faculty

Column Na...	Data Type	Allow Nulls
🔑 Fid	numeric(4, 0)	☐
Flname	nvarchar(25)	☐
Ffname	nvarchar(25)	☐
Fphone	numeric(10, 0)	☑
		☐

Location

Column Name	Data Type	Allow Nulls
🔑 Locid	numeric(5, 0)	☐
Room	nvarchar(6)	☐
Capacity	numeric(5, 0)	☑
		☐

Term

Column Name	Data Type	Allow Nulls
🔑 Termid	numeric(5, 0)	☐
Tdesc	varchar(20)	☐
Status	varchar(20)	☐
		☐

Course Section

Column Name	Data Type	Allow Nulls
🔑 Csecid	numeric(8, 0)	☐
Cid	numeric(6, 0)	☐
Termid	numeric(5, 0)	☐
Secnum	numeric(2, 0)	☐
Fid	numeric(4, 0)	☑
Locid	numeric(5, 0)	☑
Maxenrl	numeric(4, 0)	☐
Currenrl	numeric(4, 0)	☐
		☐

Course

Column Name	Data Type	Allow Nulls
🔑 Cid	numeric(6, 0)	☐
Callid	nvarchar(10)	☐
Cname	nvarchar(30)	☐
Ccredit	numeric(2, 0)	☑
		☐

Enrollment

Column Name	Data Type	Allow Nulls
🔑 Sid	numeric(5, 0)	☐
🔑 Csecid	numeric(8, 0)	☐
Grade	char(1)	☑
		☐

LAB STEPS: Complete each of the exercises below.

1. Write a query to determine the total number of course sections on each student. Display the Student Sid and the total with a heading of TotalCsections.
2. Write a query to determine the total number of course sections on each student. Display the Student Sid and the total with a heading of TotalCsections.
Filter to only display information for total of 3 or higher.
3. Re-do query 2 but filter to only show those students with more than 1 course sections enrolled. Sort by the number of course sections enrolled, highest to lowest.
4. The course_section table has a number of current enrollment (Currenrl) for each course. Show the total Currenrl for each course. Display the Course Cid and the total.
5. Write a query to display the total number Currenrl for each faculty: show the Fid and total. Sort by descending faculty on the total and only display faculty with the total of 34 or more.
6. Re-do query 5 but show the faculty name (formatted as a single field with heading of Faculty) along with the phone, and total. Sort by Ffname.
7 Display the student Sid, and number of course sections that students have enrolled in.
8 Display the student Sid, Sname (Slname + Sfname), and number of course sections that students have enrolled in.
9. Display the number of grade A per student. Show Sid, Slname, Sfname, number of grade A with a heading of Quantity.

10. Use subqueries to determine which room has the highest Capacity?
11. Use SELECT TOP to determine which room has the highest Capacity?
12. USE A SUBQUERY to display names of student that have unenrolled any course section.
13. Display the number of students in Eau Claire city
14. Display the number of course_section by student: show student Slname, Sfname, total. Sort by highest to lowest total.
15. Determine which student had enrolled the most course section.