

Course ISE 322: Database Systems

Recitation 9b: Aggregate Queries

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Answer the following queries using aggregation functions and nested queries:
The following queries are based on the following schemas:

Sailors(sid:integer, sname:string, rating:integer, age:real)
Boats(bid:integer, bname:string, color:string)
Reserves(sid:integer, bid:integer, day:date)

and

Student(snum:integer, sname:string, major:string, level:string, age:integer)
Class(name:string, meets_at:time, room:string, fid:integer)
Enrolled(snum:integer, cname:string)
Faculty(fid:integer, fname:string, deptid:integer)

1. For each red boat, find the number of reservations for this boat
2. Find the average age of sailors for each rating that has at least two sailors
3. Find the average age of sailors for each rating that has at least two sailors
4. Find the average age of sailors who are at least 18 years old for each rating level that has at least two sailors (of any age)
5. Find the average age of sailors who are at least 18 years old for each rating level that has at least two *such* sailors (at least 18)
6. Find the age of the oldest student who is either a History major or enrolled in a course taught by I. Teach.
7. Find the names of all classes that either meet in room R128 or have five or more students enrolled.
8. Find the names of faculty members for whom the combined enrollment of the courses that they teach is less than five.
9. Print the level and the average age of students for that level, for each level.
10. Print the level and the average age of students for that level, for all levels except JR.
11. For each faculty member that has taught classes only in room R128, print the faculty member's name and the total number of classes she or he has taught.
12. Find the names of students enrolled in the maximum number of classes.

13. For each age value that appears in Students, find the level value that appears most often. For example, if there are more FR level students aged 18 than SR, JR, or SO students aged 18, you should print the pair (18, FR).
14. Print out the names of sailors who have never reserved the same boat twice.