Recap 1: JOIN

Find the total number of unique sailors who have reserved each boat (ordered the number of sailors in descending order). Display the count, boat name, and boat id

Boats ($\underline{\text{bid}}$, bname, color) Sailors ($\underline{\text{sid}}$, sname, rating, age) Reserves ($\underline{\text{sid}}$, $\underline{\text{bid}}$, day)

Refer to http://www.cs.virginia.edu/~up3f/cs4750/inclass/alldbs.sgl

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Recap 3: JOIN

Find the average age of sailors who have reserved each boat? Show boat name, bid, and the average age. Order results by bid. (from Recap 2)

In addition, only show the boat info where the average age of sailors who have reserved that boat is > 35 years old.

Boats ($\underline{\text{bid}}$, bname, color) Sailors ($\underline{\text{sid}}$, sname, rating, age) Reserves ($\underline{\text{sid}}$, $\underline{\text{bid}}$, day)

Refer to http://www.cs.virginia.edu/~up3f/cs4750/inclass/alldbs.sgl

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Recap 2: JOIN

Find the average age of sailors who have reserved each boat. Show boat name, boat id, and the average age.

Order results by boat id.

Boats ($\underline{\text{bid}}$, bname, color) Sailors ($\underline{\text{sid}}$, sname, rating, age) Reserves ($\underline{\text{sid}}$, $\underline{\text{bid}}$, day)

Refer to http://www.cs.virginia.edu/~up3f/cs4750/inclass/alldbs.sgl

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Recap 4: Self Join

Find the average salary for each job that is greater than the average salary of all employees

practice_emp empno ename job sal 1200 7369 Smith Clerk 7499 Allen Salesman 2000 7521 Ward Salesman 1650 Jones Manager 7654 Martin Salesman 1650 7698 Blake Manager 3250 7782 Clark Manager 2850 7788 3500 Scott Analyst 7839 Kina President 7844 Turner Salesman 1900 7876 Adams Clerk 1500 7900 James Clerk 1350 7902 Ford Analyst 3500 7934 Miller Clerk 1700

(Note: The table shows sample data, not a complete set of data, refer to https://www.cs.virginia.edu/~up3f/cs4750/assigns/employees.sql

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Recap 5: Self Join

Find all students (sid) who live in the same city and on the same street as their mentor

Mentorship (mentee sid, mentor_sid)
-- mentor_sid is a mentor of another student mentee_sid
Study (sid, credits) -- credits the student has taken
Enrollment (dept id, sid) -- dept the student is enrolled in
Student (sid, street, city) -- street, city the student lives

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Let's Try 1: Subqueries in SELECT

For each person, find the average salary of their job (assume we will display empno, ename, and average salary of the person's job)

practice_emp empno ename iob sal 1200 Smith Clerk 7499 Allen Salesman 2000 7521 Ward Salesman 1650 7566 Jones Manager 3375 1650 7654 Martin Salesman Blake Manager 7698 Clark Manager 2850 7788 Scott Analyst 3500 7839 King President 6500 7844 1900 Turner Salesman 7876 Adams Clerk 1500 7900 James Clerk 1350 7902 Ford Analyst 3500

Clerk

7934 Miller

Step 1: Find each person's empno and ename

Step 2: Given the job of the person, find the average salary of that job

(Note: The table shows sample data, not a complete set of data, refer to https://www.cs.virginia.edu/~up3f/cs4750/assigns/employees.sql)

1700

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Let's Try 1: Self Join

For each person, find the average salary of their job (assume we will display empno, ename, and average salary of the person's job)

ractice	emp		
empno	ename	job	sal
7369	Smith	Clerk	1200
7499	Allen	Salesman	2000
7521	Ward	Salesman	1650
7566	Jones	Manager	3375
7654	Martin	Salesman	1650
7698	Blake	Manager	3250
7782	Clark	Manager	2850
7788	Scott	Analyst	3500
7839	King	President	6500
7844	Turner	Salesman	1900
7876	Adams	Clerk	1500
7900	James	Clerk	1350
7902	Ford	Analyst	3500
7934	Miller	Clerk	1700

(Note: The table shows sample data, not a complete set of data, refer to https://www.cs.virginia.edu/~up3f/cs4750/assigns/employees.sgl)

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Let's Try 1: Subqueries in FROM

For each person, find the average salary of their job (assume we will display empno, ename, and average salary of the person's job)

practice_emp sal empno ename job 1200 Smith Clerk 7499 Allen Salesman 2000 7521 Ward Salesman 1650 7566 Jones Manager 3375 1650 7654 Martin Salesman 7698 Blake Manager Clark Manager 2850 7782 7788 Scott Analyst 3500 7839 King President 6500 7844 1900 Turner Salesman 7876 Adams Clerk 1500 7900 James Clerk 1350 7902 Ford Analyst 3500 7934 Miller Clerk 1700

Step 1: Find average salary of each job

Step 2: For each person, find the average salary of that the person's job

(Note: The table shows sample data, not a complete set of data, refer to https://www.cs.virginia.edu/~up3f/cs4750/assigns/employees.sgl)

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Let's Try 1: Subqueries in WITH

For each person, find the average salary of their job (assume we will display empno, name, and average salary of the person's job)

practice_emp empno ename job 7369 Smith Clerk 7499 Allen Salesman 2000 7521 Ward Salesman 1650 Manager 7566 Jones 3375 7654 Martin Salesman 1650 7698 Blake Manager 3250 7782 Clark Manager 2850 7788 Scott Analyst 3500 6500 7839 King President 7844 Turner Salesman Adams 1500 7900 James Clerk 1350 7902 Ford 3500 Analyst 7934 Miller 1700

Step 1: Find average salary of each job

<u>Step 2</u>: For each person, find the average salary of that the person's job

(Note: The table shows sample data, not a complete set of data, refer to https://www.cs.virginia.edu/~up3f/cs4750/assigns/employees.sg

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Let's Try 2: Join (1)

For each sailor, find the number of boats they have reserved (assume we will display sname and the number of boats)

Sai	lors			Res	serv	es
sid	sname	rating	age	sid	bid	day
22	Yuppy	9	35			2003-06-05
31	Lubber	8	55.5	22	104	2003-06-15 2003-06-05
•		•		44	102	2003-06-05
44	Guppy	5	35	48	105	2003-06-14
48	Ole Red	8	92.3	58	103	2003-06-07
58	Rusty	10	40			

(Note: The table shows sample data, not a complete set of data, refer to http://www.cs.virginia.edu/~up3f/cs4750/inclass/alldbs.sgl)

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Let's Try 2: Join (2)

For each sailor, find the number of boats they have reserved (assume we will display sname and the number of boats)

Sai	lors				Res	serv	es	
sid	sname	rating	age	l	sid	bid	day	
22	Yuppy	9	35		22	101	2003-06-05	
31	Lubber	8	55.5	ı	22		2003-06-15	
	_			П	44	102	2003-06-05	
44	Guppy	5	35	l	48	105	2003-06-14	
48	Ole Red	8	92.3		58	103	2003-06-07	
58	Rusty	10	40					

(Note: The table shows sample data, not a complete set of data, refer to http://www.cs.virginia.edu/~up3f/cs4750/inclass/alldbs.sql)

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Let's Try 2: Subqueries in SELECT

For each sailor, find the number of boats they have reserved (assume we will display sname and the number of boats)

22 Yuppy 9 35 22 101 2003-06- 31 Lubber 8 55.5 22 104 2003-06- 44 102 2003-06-		dav	hid	Res	age	rating	lors	sid
31 Lubber 8 55.5 44 102 2003-06-	-05							22
44 102 2003-06-	15	2003-06-15	104	22	55.5	ρ	Lubber	21
44 Guppy 5 35 48 105 2003-06-	-05	2003-06-05	102	44	000	-		•
	-14	2003-06-14	105	48	35	5	Guppy	44
48 Ole Red 8 92.3 58 103 2003-06-	-07	2003-06-07	103	58	92.3	8	Ole Red	48
58 Rusty 10 40					40	10	Rusty	58

(Note: The table shows sample data, not a complete set of data, refer to http://www.cs.virginia.edu/~up3f/cs4750/inclass/alldbs.sql)

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