OCTOBER 16, 2024

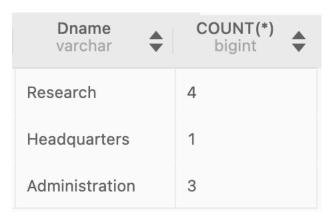
HOMEWORK 3 B CS 457 B

UMAIR DADA 20281 - SFBU

1. (7.5)

 $\textbf{a.} \quad \textbf{QUERY-} \\ \textbf{SELECT Dname, COUNT(*)} \quad \textbf{FROM DEPARTMENT, EMPLOYEE WHERE Dnumber = Dno GROUP BY} \\ \textbf{Application of the property of$

Dname HAVING AVG(Salary) > 30000;



b. QUERY - SELECT Dname, COUNT(*) AS Male_Employees FROM DEPARTMENT, EMPLOYEE WHERE Dnumber

= Dno AND Sex = 'M' AND Salary > 30000 GROUP BY Dname;



Yes, this query can be used and executed in SQL without any issues. SQL is quite cabple of handling multiple conditions using WHERE syntax and can group all the results using the GROUP BY syntax. SQL can also aggregate specific subsets of the data in each department

2. (7.6)

```
1 CREATE TABLE STUDENT (
Name VARCHAR(50),
3
       Student_number INT PRIMARY KEY,
       Class INT,
5
       Major VARCHAR(50)
6);
7
8
9 -- Grade Table
10 CREATE TABLE GRADE_REPORT (
11 Student_number INT,
12
      Section_identifier INT,
      Grade CHAR(1)
13
14 );
15
16 INSERT INTO STUDENT (Name, Student_number, Class, Major)
17 VALUES
18 ('Smith', 17, 1, 'CS'),
19 ('Brown', 8, 2, 'CS'),
20 ('Jones', 12, 1, 'EE');
21
22 INSERT INTO GRADE_REPORT (Student_number, Section_identifier, Grade)
23 VALUES
24 (17, 112, 'B'),
25 (17, 119, 'C'),
26 (8, 85, 'A'),
27 (8, 92, 'A'),
28 (8, 102, 'B'),
29 (8, 135, 'A'),
30 (12, 155, 'A'),
31 (12, 160, 'A'),
32 (12, 170, 'A'),
33 (12, 175, 'A');
```

www.umairdada.com

Name varchar(50)	* Student_number int	Class int	Major varchar(50)
Brown	8	2	CS
Jones	12	1	EE
Smith	17	1	CS

Student_number int	Section_identifier int	Grade char(1)
17	112	В
17	119	С
8	85	A
8	92	A
8	102	В
8	135	A
12	155	A
12	160	Α
12	170	А
12	175	A

a. QUERY - SELECT S.Name, S.Major FROM STUDENT S WHERE NOT EXISTS (SELECT G.Student_number

FROM GRADE_REPORT G WHERE G.Student_number = S.Student_number AND G.Grade <> 'A');

Name varchar	\$	Major varchar	\$
Jones		EE	

b. QUERY - SELECT S.Name, S.Major FROM STUDENT S WHERE NOT EXISTS (SELECT G.Student_number

FROM GRADE_REPORT G WHERE G.Student_number = S.Student_number AND G.Grade = 'A');

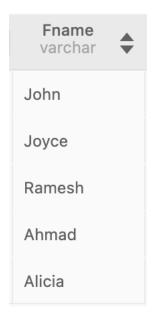


3. (7.7)

a. QUERY - SELECT E1.Fname FROM EMPLOYEE E1 WHERE E1.Dno = (SELECT Dno FROM EMPLOYEE
 WHERE Salary = (SELECT MAX(Salary) FROM EMPLOYEE));



b. QUERY –SELECT E1.Fname FROM EMPLOYEE E1 WHERE E1.Super_ssn IN (SELECT E2.Ssn FROM EMPLOYEE E2 WHERE E2.Super_ssn = '888665555');



c. QUERY —SELECT E1.FName FROM EMPLOYEE E1 WHERE E1.Salary >= (SELECT MIN(Salary) FROM EMPLOYEE) + 10000;

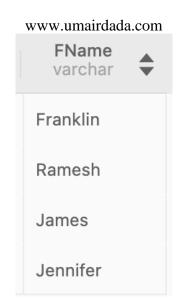


TABLE DATA

1. EMPLOYEE TABLE

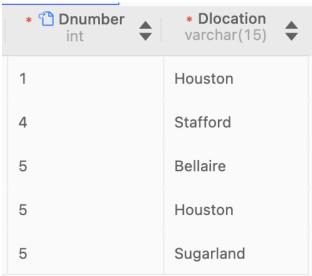


2. DEPARTMENT TABLE

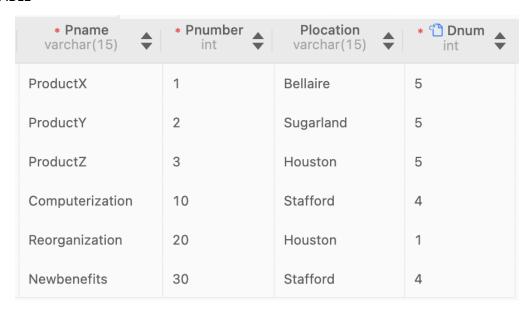


3. DEPT LOCATIONS TABLE

www.umairdada.com



4. PROJECT TABLE



5. WORKS_ON TABLE

www.umairdada.com

* TESSN char(9)	* TPno int	Hours decimal(3,1)
123456789	1	32.5
123456789	2	7.5
333445555	2	10.0
333445555	3	10.0
333445555	10	10.0
333445555	20	10.0
453453453	1	20.0
453453453	2	20.0
666884444	3	40.0
888665555	20	(NULL)
987654321	20	15.0
987654321	30	20.0
987979897	10	35.0
987979897	30	5.0
999887777	10	10.0
999887777	30	30.0

6. DEPENDENT TABLE

* Char(9)	* Dependent_name varchar(15)	Sex char(1)	Bdate date	Relationship varchar(8)
123456789	Alice	F	1988-12-30	Daughter
123456789	Elizabeth	F	1967-05-05	Spouse
123456789	Michael	М	1988-01-04	Son
333445555	Alice	F	1986-04-05	Daughter
333445555	Joy	F	1958-05-03	Spouse
333445555	Theodore	М	1983-10-25	Son
987654321	Abner	М	1942-02-28	Spouse