SQL

21/01/24 3:23 PM

1. Write an SQL query that selects the product id, year, quantity, and price for the first year of every product sold.

Input -

sale_id	product_id	year	quantity	price
1	100	2008	10	5000
2	100	2009	12	5000
7	200	2011	15	9000

product_id	product_name
100	Nokia
200	Apple
300	Samsung

Output-

product_id	first_year	quantity	price
100	2008	10	5000
200	2011	15	9000

Ex- product_id -100 has two years 2008,2009 but in output we need only first year i.e, 2008

2. Find the highest grade with its corresponding course for each student. In case of a tie, you should find the course with the smallest course_id. The output must be sorted by increasing student_id.

Input -

student_id	course_id	grade
2	2	95
2	3	95
1	1	90
1	2	99
3	1	80
3	2	75
3	3	82

Output -

student_id	course_id	grade
1	2	99
2	2	95
3	3	82

3. Find total time spent by each employee -
[An employee can enter and leave more than once. The time spent in the office for a single entry is out_time - in_time]
Input-

emp_id	event_day	in_time	out_time
1	28-11-2020	4	32
1	28-11-2020	55	200
1	03-12-2020	1	42
2	28-11-2020	3	33
2	09-12-2020	47	74

Output -

day	emp_id	total_time
28-11-2020	1	173
28-11-2020	2	30
03-12-2020	1	41
09-12-2020	2	27

Ex -
Employee 1 has three events: two on day 2020-11-28 with a total of (32 - 4) + (200 - 55) = 173, and one on day 2020-12-03 with a total of (42 - 1) = 41.
Employee 2 has two events: one on day 2020-11-28 with a total of (33 - 3) = 30, and one on day 2020-12-09 with a total of (74 - 47) = 27.

4. Find the department wise top 3 salary

Input -

Employee table -

id	name	salary	departmentid
1	Joe	70000	1
2	Henry	80000	2
3	Sam	60000	2
4	Max	90000	1
5	Janet	69000	1
6	Randy	85000	1

Department table -

id	name
1	IT
2	Sales

Output-

department	employee_name	salary
IT	Max	90000
IT	Randy	85000
IT	Joe	70000
Sales	Henry	80000
Sales	Sam	60000

5. Find the cumulative sum -

Input -

day	rental_count
24-05-2005	8
25-05-2005	137
26-05-2005	174
27-05-2005	166
28-05-2005	196

Output -

day	rental_count	cumulative_sum
24-05-2005	8	8
25-05-2005	137	145
26-05-2005	174	319
27-05-2005	166	485
28-05-2005	196	681

6. Find the row counts using inner join,left,right,full outer-

Input -
Table A

id
1
1
2
2

Table b

id
1
1
3
3
2

Output -

first_name	last_name	Date_of_Birth	Gender
Kristin	Cooley	07-02-1978	F
Lessie	Donovan	11-10-1975	F
Kristine	Werner	30-06-1978	F
Young	Knapp	20-04-1970	F
Stephan	Benjamin	02-11-1975	M
Milo	Tapia	21-10-1979	M
Micheal	Wall	21-10-1975	M
Francesco	Warren	11-10-1975	M
Quinn	Marquez	27-11-1978	M
Nicky	Pennington	22-05-1980	M
Willard	Durham	11-03-1978	M
Edison	Page	29-05-1970	M
Edmundo	Navarro	03-01-1974	M
Arline	Navarro	06-01-1976	F
Asa	Evans	26-12-1982	M

7. Write a solution to find the employees who earn more than their managers

Input-

id	name	salary	managerid
1	Rahul	5000	3
2	Rohit	8000	4
3	Suresh	6000	NULL
4	Manish	9000	3

Output

id	name	salary	managerid
4	Manish	9000	3

8. Generate the below -
Create column called Fullname, email_id and password (combination of first 4 letter from firstname +ddmmyyyy from DOB)

Input-

first_name	last_name	Date_of_Birth	Gender
Kristin	Cooley	07-02-1978	F
Lessie	Donovan	11-10-1975	F
Kristine	Werner	30-06-1978	F
Young	Knapp	20-04-1970	F
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Nicky	Pennington	22-05-1980	M
Willard	Durham	11-03-1978	M
Edison	Page	29-05-1970	M
Edmundo	Navarro	03-01-1974	M
Arline	Navarro	06-01-1976	F
Asa	Evans	26-12-1982	M

Output -

first_name	last_name	dob	gender	full_name	email_id	password
kristin	cooley	07-02-1978	F	kristin cooley	kristincooley@gmail.com	Kris0721978
lessie	donovan	11-10-1975	F	lessie donovan	lessiedonovan@gmail.com	Less11101975
kristine	werner	30-06-1978	F	kristine werner	kristinewerner@gmail.com	Kris3061978
young	knapp	20-04-1970	F	young knapp	youngknapp@gmail.com	Youn2041970
stephan	benjamin	02-11-1975	M	stephan benjamin	stephanbenjamin@gmail.com	Step02111975
milo	tapia	21-10-1979	M	milo tapia	milotapia@gmail.com	Milo21101979
micheal	wall	21-10-1975	M	micheal wall	michealwall@gmail.com	Mich21101975
francesco	warren	11-10-1975	M	francesco warren	francescowarren@gmail.com	Fran11101975
quinn	marquez	27-11-1978	M	quinn marquez	quinnmarquez@gmail.com	Quin27111978
nicky	pennington	22-05-1980	M	nicky pennington	nickypennington@gmail.com	Nick2251980
willard	durham	11-03-1978	M	willard durham	willarddurham@gmail.com	Will1131978
edison	page	29-05-1970	M	edison page	edisonpage@gmail.com	Edis2951970
edmundo	navarro	03-01-1974	M	edmundo navarro	edmundonavarro@gmail.com	Edmu0311974
arline	navarro	06-01-1976	F	arline navarro	arlinenavarro@gmail.com	Arlo0611976
asa	evans	26-12-1982	M	asa evans	asaevans@gmail.com	Asa261221982

9. Find the details of the employee who had hike recently

Input -

emp_id	month	salary
1	Apr-22	100
1	May-22	100
1	Jun-22	120
1	Jul-22	120
2	Apr-22	500
2	May-22	500
2	Jun-22	500
2	Jul-22	500

Output -

Emp_id	is_salary_hike
1	TRUE
2	FALSE

10. Find the amount of product sold per country in the below format -

Input -

Product	Amount	Country
Banana	1000	USA
Carrots	1500	USA
Beans	1600	USA
Orange	2000	USA
Orange	2000	USA
Banana	400	China
Carrots	1200	China
Beans	1500	China
Orange	4000	China
Banana	2000	Canada
Carrots	2000	Canada
Beans	2000	Mexico

Expected -

product	usa	china	canada	mexico
Banana	1000	400	2000	0
Beans	1600	1500	0	2000
Carrots	1500	1200	2000	0
Orange	4000	4000	0	0

11. Find the users who purchase 2 or more products on different dates.

Input -

userId	productId	quantity	purchaseDate
827	2452	45	04/09/2022
333	1122	9	06/02/2022
333	1122	10	06/02/2022
536	3223	6	01/11/2022
827	3585	35	02/20/2022
536	3223	5	03/02/2022
536	1435	10	03/02/2022

Output-

userId	productId	total_purchase
536	3223	2

12. Find the Origin and destination for each customer_id

Input-

customer_id	flight_id	origin	destination
1	f1	Delhi	Hydrabad
1	f2	Hydrabad	Chennai
2	f3	Mumbai	Agra
2	f4	Agra	Punjab

Output-

customer_id	origin	destination
1	Delhi	Chennai
2	Mumbai	Punjab