

1. Rising Temperature

Table: Weather

Column Name	Type
id	int
recordDate	date
temperature	int

id is the primary key for this table.

This table contains information about the temperature in a certain day.

Write an SQL query to find all dates' id with higher temperature compared to its previous dates (yesterday).

Return the result table in any order.

The query result format is in the following example:

Weather

id	recordDate	Temperature
1	2015-01-01	10
2	2015-01-02	25
3	2015-01-03	20
4	2015-01-04	30

Result table:

id
2
4

2. Game Play Analysis I

Table: Activity

Column Name	Type
player_id	int
device_id	int
event_date	date
games_played	int

(player_id, event_date) is the primary key of this table.

This table shows the activity of players of some game.

Each row is a record of a player who logged in and played a number of games (possibly 0) before logging out on some day using some device.

Write an SQL query that reports the **first login date** for each player.

The query result format is in the following example:

Activity table:

player_id	device_id	event_date	games_played
1	2	2016-03-01	5
1	2	2016-05-02	6
2	3	2017-06-25	1
3	1	2016-03-02	0
3	4	2018-07-03	5

Result table:

player_id	first_login
1	2016-03-01
2	2017-06-25
3	2016-03-02

3. Game Play Analysis II

Table: Activity

Column Name	Type
player_id	int
device_id	int
event_date	date
games_played	int

(player_id, event_date) is the primary key of this table.

This table shows the activity of players of some game.

Each row is a record of a player who logged in and played a number of games (possibly 0) before logging out on some day using some device.

Write a SQL query that reports the device that is first logged in for each player.

The query result format is in the following example:

Activity table:

player_id	device_id	event_date	games_played
1	2	2016-03-01	5
1	2	2016-05-02	6
2	3	2017-06-25	1
3	1	2016-03-02	0
3	4	2018-07-03	5

Result table:

player_id	device_id
1	2
2	3
3	1

4. Employee Bonus

Select all employee's name and bonus whose bonus is < 1000.

Table:Employee

empId	name	supervisor	salary
1	John	3	1000
2	Dan	3	2000
3	Brad	null	4000
4	Thomas	3	4000

empId is the primary key column for this table.

Table: Bonus

empId	bonus
2	500
4	2000

empId is the primary key column for this table.

Example output:

name	bonus
John	null
Dan	500
Brad	null

5. Big Countries

There is a table World

name	continent	area	population	gdp
Afghanistan	Asia	652230	25500100	20343000
Albania	Europe	28748	2831741	12960000
Algeria	Africa	2381741	37100000	188681000
Andorra	Europe	468	78115	3712000
Angola	Africa	1246700	20609294	100990000

A country is big if it has an area of bigger than 3 million square km or a population of more than 25 million.

Write a SQL solution to output big countries' name, population and area.

For example, according to the above table, we should output:

name	population	area
Afghanistan	25500100	652230
Algeria	37100000	2381741