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1322. Ads Performance

Easy 43 11 Add to List Share

SQL Schema >

Table: Ads

```
+-----+
| Column Name | Type   |
+-----+
| ad_id       | int    |
| user_id     | int    |
| action       | enum   |
+-----+
```

(ad_id, user_id) is the primary key for this table.

Each row of this table contains the ID of an Ad, the ID of a user and the action taken by this user regarding this Ad. The action column is an ENUM type of ('Clicked', 'Viewed', 'Ignored').

A company is running Ads and wants to calculate the performance of each Ad.

Performance of the Ad is measured using Click-Through Rate (CTR) where:

$$CTR = \begin{cases} 0, & \text{if Ad total clicks + Ad total views} = 0 \\ \frac{\text{Ad total clicks}}{\text{Ad total clicks} + \text{Ad total views}} \times 100, & \text{otherwise} \end{cases}$$

Write an SQL query to find the `ctr` of each Ad.Round `ctr` to 2 decimal points. Order the result table by `ctr` in descending order and by `ad_id` in ascending order in case of a tie.

The query result format is in the following example:

```
Ads table:
+-----+-----+
| ad_id | user_id | action |
+-----+-----+
| 1     | 1       | Clicked |
| 2     | 2       | Clicked |
| 3     | 3       | Viewed  |
| 5     | 5       | Ignored |
| 1     | 7       | Ignored |
| 2     | 7       | Viewed  |
| 3     | 5       | Clicked |
| 1     | 4       | Viewed  |
| 2     | 11      | Viewed  |
| 1     | 2       | Clicked |
+-----+-----+
Result table:
+-----+
| ad_id | ctr   |
+-----+
| 1     | 66.67 |
| 3     | 50.00 |
| 2     | 33.33 |
| 5     | 0.00  |
+-----+
for ad_id = 1, ctr = (2/(2+1)) * 100 = 66.67
for ad_id = 2, ctr = (1/(1+2)) * 100 = 33.33
for ad_id = 3, ctr = (1/(1+1)) * 100 = 50.00
for ad_id = 5, ctr = 0.00, Note that ad_id = 5 has no clicks or views.
Note that we don't care about Ignored Ads.
Result table is ordered by the ctr. in case of a tie we order them by ad_id
```

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Seen this question in a real interview before?

Yes

No

Contributor

Companies /