578. Get Highest Answer Rate Question description

July 10, 2017 | 16.5K views



Get the highest answer rate question from a table survey_log with these columns: id, action, question_id, answer_id, q_num, timestamp. id means user id; action has these kind of values: "show", "answer", "skip"; answer_id is not null when action

column is "answer", while is null for "show" and "skip"; q_num is the numeral order of the question in current session. Write a sql query to identify the question which has the highest answer rate.

Example:

Input:

```
| question_id | answer_id | q_num
      action
                               null
5
                  285
                               124124
                                         1
                                                    124
       answer
                              null
       show
                369
                                                    125
                369
                              null
                                         2
      skip
                                                    126
Output:
survey log
    285
+----+
Explanation:
question 285 has answer rate 1/1, while question 369 has 0/1 answer rate, so output 28
```

Note: The highest answer rate meaning is: answer number's ratio in show number in the same question.

Approach I: Using sub-query and SUM() function [Accepted]

Solution

```
Intuition
Calculate the answered times / show times for each question.
```

Algorithm

First, we can use SUM() to get the total number of answered times as well as the show times for each

question using a sub-query as below.

SELECT question_id, SUM(CASE

```
WHEN action = 'answer' THEN 1
        ELSE 0
   END) AS num_answer,
   SUM(CASE
        WHEN action = 'show' THEN 1
        ELSE 0
    END) AS num_show
FROM
    survey_log
GROUP BY question_id
| question_id | num_answer | num_show |
 285
              1
```

SELECT question_id as survey_log

Then we can calculate the answer rate by its definition.

1

FROM

MySQL

369

```
SELECT question_id,
           SUM(case when action="answer" THEN 1 ELSE 0 END) as num_answer,
          SUM(case when action="show" THEN 1 ELSE @ END) as num_show,
      FROM survey_log
     GROUP BY question_id
  ) as tbl
  ORDER BY (num_answer / num_show) DESC
  LIMIT 1
Approach II: Using sub-query and COUNT(IF...) function [Accepted]
Algorithm
```

combining with the IF() function. MySQL

This solution is very straight forward: use the COUNT() function to sum the answer and show time

SELECT question_id AS 'survey_log'

FROM

survey_log GROUP BY question_id

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anilreddykatta * 7 @ August 5, 2018 9:47 AM

COUNT(IF(action = 'show', 1, NULL)). Correct?

6 ∧ ∨ ☑ Share ¬ Reply

3 A V 🗗 Share 🦘 Reply

nickie_xu *3 @ February 8, 2018 4:51 PM

"answer", 369, 123, 2, 3], [5, "skip", 369, null, 2, 4]]}},

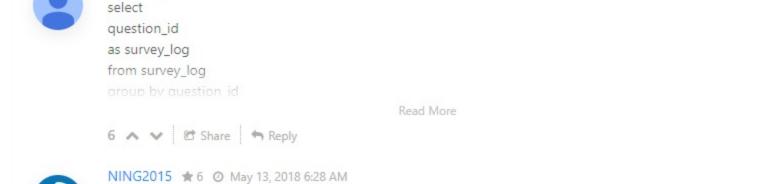
SHOW 2 REPLIES

SHOW 3 REPLIES

```
ORDER BY COUNT(answer_id) / COUNT(IF(action = 'show', 1, 0)) DESC
  LIMIT 1;
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                                                                                   Next 0
```

```
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             Type comment here... (Markdown is supported)
                                                                                                   Post
             Preview
             SleezyBunny 🛊 138 ② August 28, 2018 11:28 AM
             This COUNT(IF(action = 'show', 1, 0)) is so wrong. should be COUNT(IF(action = 'show',
             1, null))
```

```
learnSomeCode ★ 35 ② September 18, 2018 1:56 AM
case when action is all 'answer' and no 'show' this will result in a division by zero. How is that valid
when you define the ratio as answer:show. Stupid question. And your answer has typos. Please do a
13 A V C Share  Reply
SHOW 3 REPLIES
adazhou55 🖈 14 🧿 July 9, 2018 6:55 AM
What if there are multiple question id with same highest rate? "LIMIT 1" can only show the 1st one.
```



SHOW 1 REPLY bowang0104 * 4 @ August 5, 2018 4:09 AM Looks like there might be insufficient sample or bugs in test cases. I misunderstood the problem at the beginning and used the following code which I got passed. select question_id as survey_log

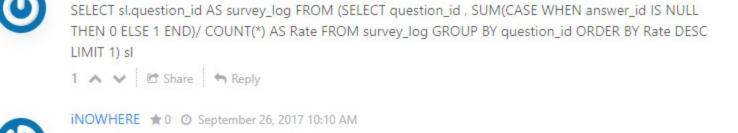
I think COUNT(IF(action = 'show', 1, 0)) will count 0's even if action is not 'show'. So instead it should be

Read More

```
i think the last solution is mistaken.
SELECT
question_id AS 'survey_log'
FROM
                                           Read More
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sendofuji 🛊 5 🧿 August 22, 2019 8:00 AM
```

given the final input: {"headers": {"survey_log": ["uid", "action", "question_id", "answer_id", "q_num", "timestamp"]}, "rows": {"survey_log": [[5, "answer", 285, 123, 1, 1], [5, "answer", 285, 123, 1, 2], [5,

num_show should be 0 for both 285 and 369, how does mysql compare two zero division results? So Read More 2 A V @ Share Reply SHOW 1 REPLY SukirtiGur * 1 ② August 13, 2018 2:31 AM



5 answer 285 123 1 1 Read More 1 A V @ Share Reply

I doubt this answer might not be right..?

Give the table like this:

1 2 3 >