

HOMEWORK 4

Tr. Rode, R. Name, SUM(Amount)
 ≈ 10⁴ (cardinality of table report)
 Group by R. Rode, R. Name
 ③

$10^9 \cdot \left(\frac{10^4}{10^5}\right) \approx 10^8$

$\approx 10^4$

holding count(*) ≥ 2 ≈ 1/10

Group by RS. Amount ①

$\approx 5 \cdot 10^8 \times \frac{1}{5} \approx 10^8$

RS. Rode = AS. Rode

$\approx 2 \cdot 10^3$

ServiceName = 'un. R. R. OR' ≈ 1/5
 Terms-Town ≈ 1/5

③ Group by and join
 * join
 ④ Hash join because the dimension of the two tables is big ($> 10^3$)

④ Hash join for a similar reason as before.

④ Hash join for the same reason as the first point

④ Hash join for the same reason as before.
 ④ Hash group by because the table cannot fit in main memory.
 ④ Hash group by for the same reason as before.

④ Access Path without indexes

- R, RS, AS Full table scan + Filter

- RS1 Full table scan

⑤ Indexed

It's useless to define an index either because the tables are too big or the selectivity of the various predicate is too low as the system may not be able to define because the group by attributes set is different from the join attributes set for both the queries.

⑥ there is not a well access path

⑦ group by chunk down