

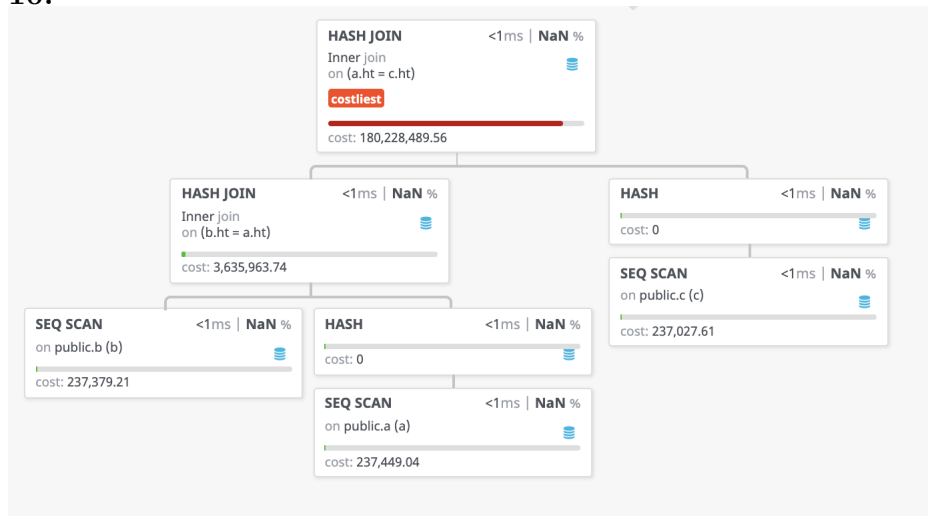
Homework 10

1 Part 1

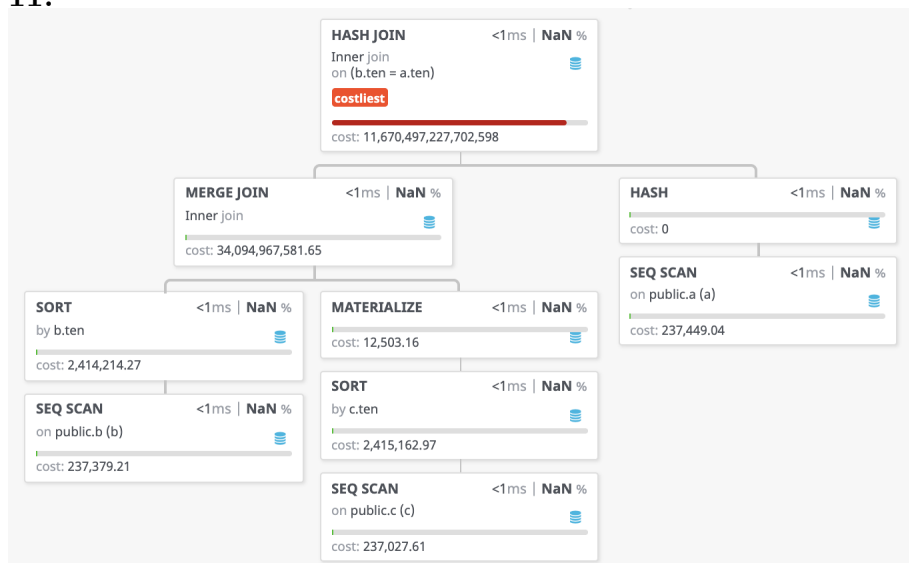
Client Location	Server Location	Load Time (seconds)	Bytes/second
Local Machine	Local Machine	115.4	11.1 Mbytes / second
Local Machine	AWS	95096.3	13.9 Kbytes / second
AWS	AWS	153.9	8.3 Mbytes/ second

2 Part 2

10.



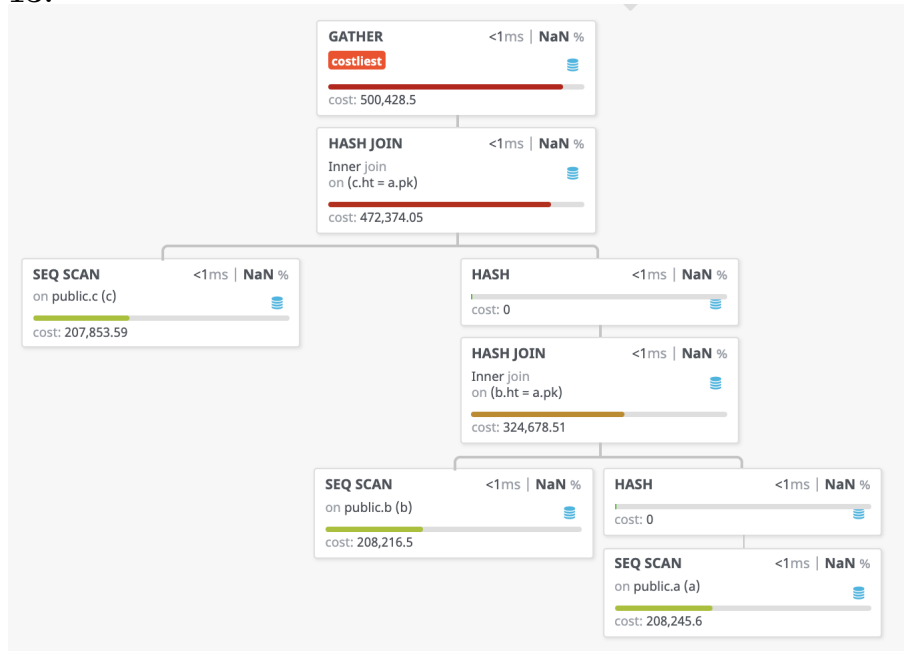
11.



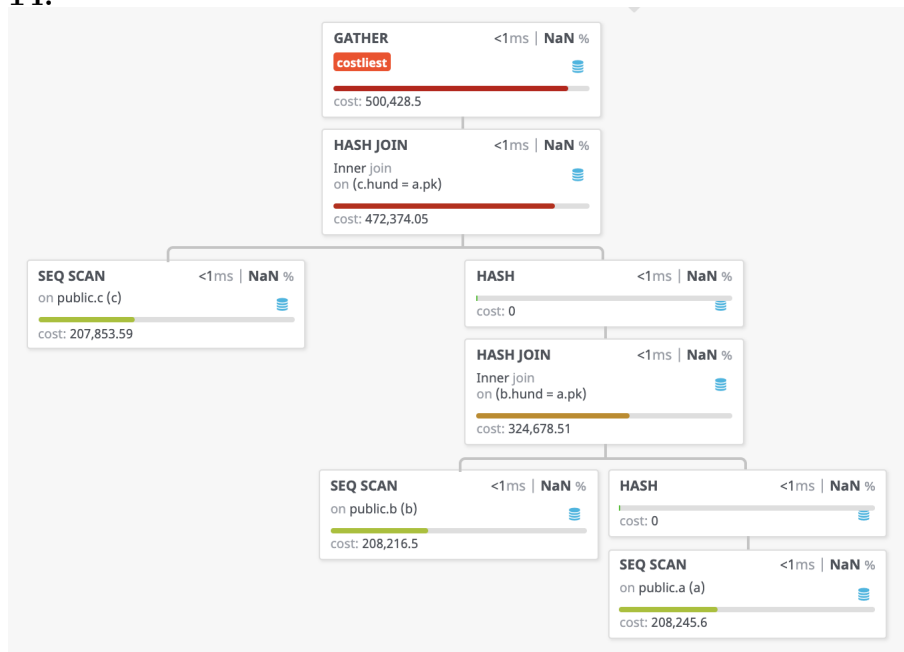
12.

A.hund = B.hund = C.hund and A.ot = B.ot = C.ot is the threshold.
 ot produces the same result as ht
 hund produces the same result as ten

13.



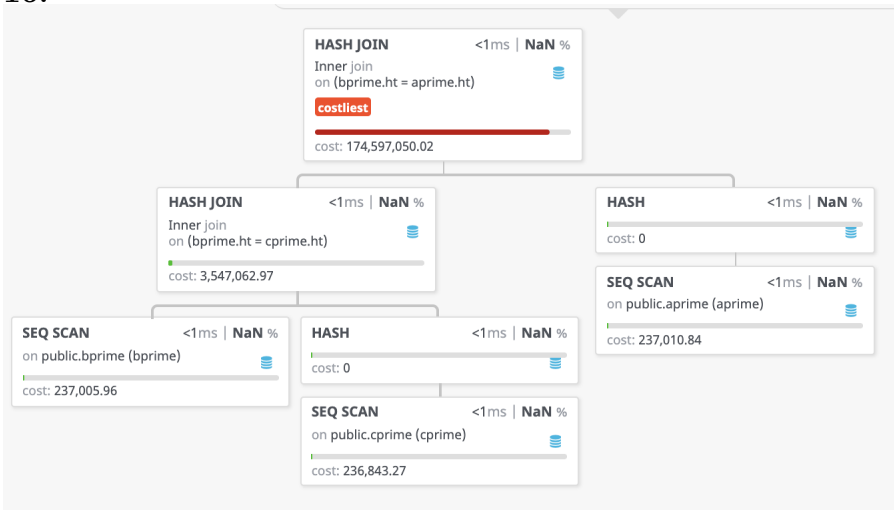
14.



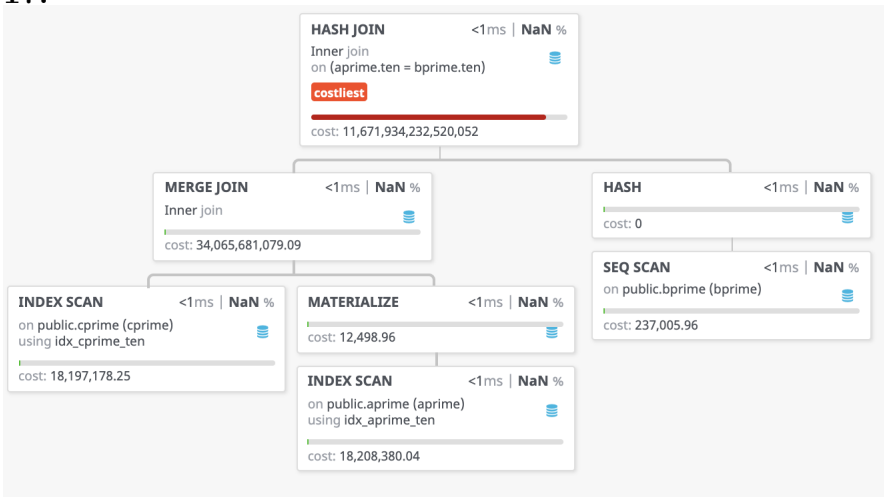
15.

13 and 14 produce the same plan.

16.



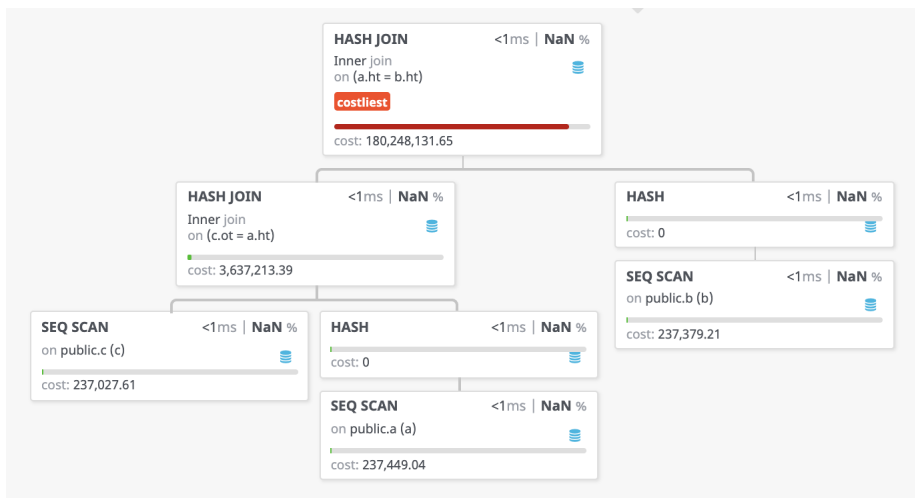
17.



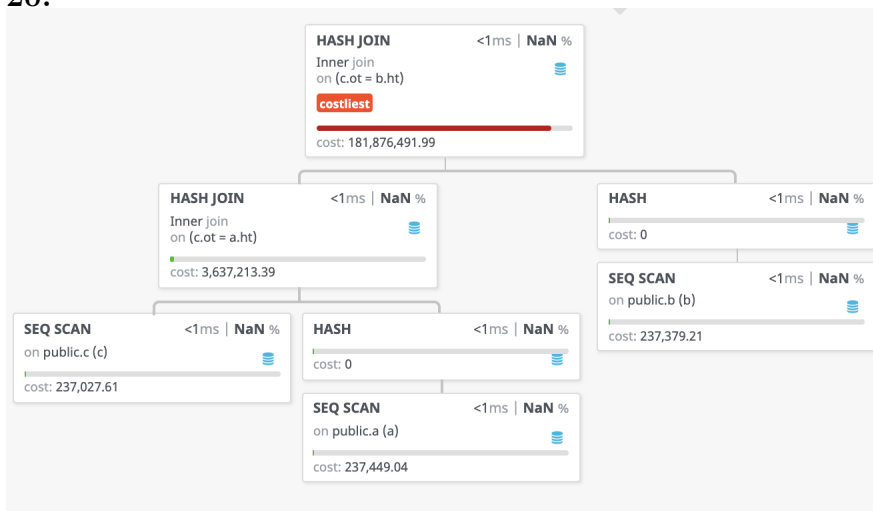
18.

A.hund = B.hund = C.hund and A.ot = B.ot = C.ot is the threshold.
 ot produces the same result as ht
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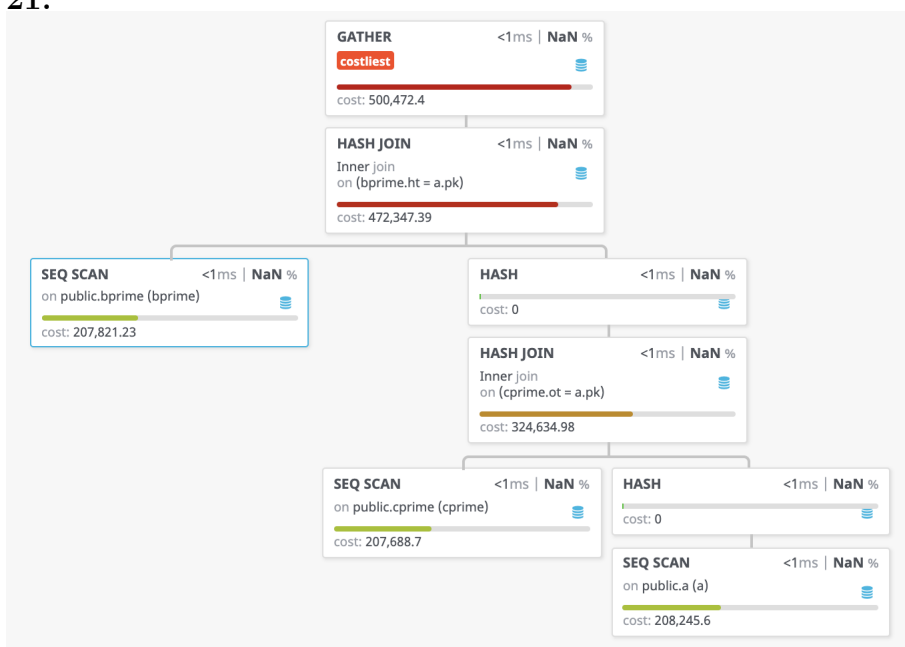
19.



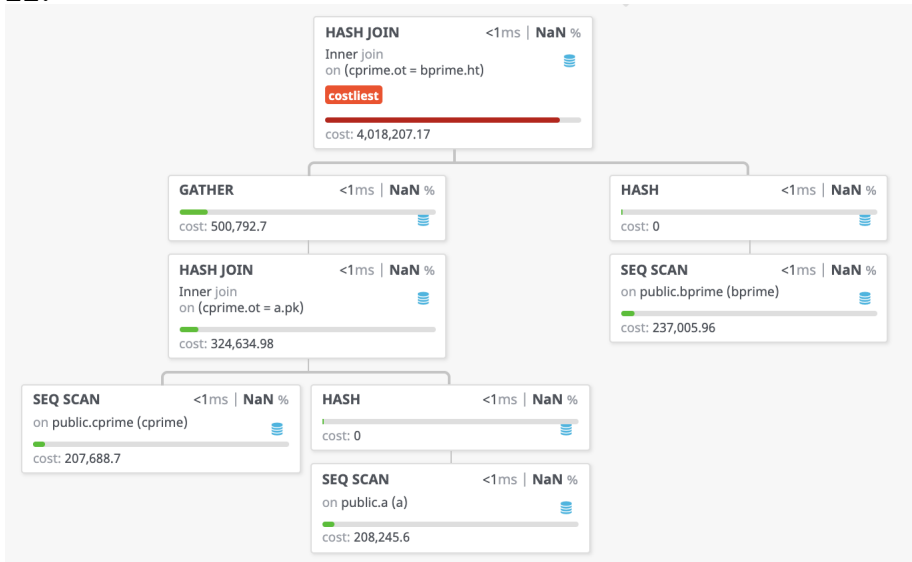
20.



21.



22.



The join order was not affected in the non-indexed tables. The optimizer did the same thing regardless of how I wrote the query. In the queries with the indexed tables, the join order was affected by how I wrote the query for the three way join.

3 Part 3: Datalog Syntax

1.

Triggers, and Views

2.

AI (Knowledge based Systems), Enterprise Information Integration, and Business Process Execution Language.

3.

$\pi_{Person}((Frequents \bowtie Likes) \bowtie Sells)$

4.

- a) Sells = 3
- b) Happy = 1
- c) Likes = 2

5.

bar, beer, p

6.

- a) 5 subgoals
- b) 1 distinguished variable

7.

- a) $\text{OpenDays}(r,d) = \text{Restaurant}(r, d)$
- b) $\text{ClosedDays}(r,d) = \text{Restaurant}(r)$ and $\text{Restaurant}(_, d)$ and not $\text{Restaurant}(r, d)$
- c) no
- d) it cannot be concluded that it is closed.

8.

- a) unsafe: price
- b) unsafe: r2, d2, o2, c2
- c) safe