

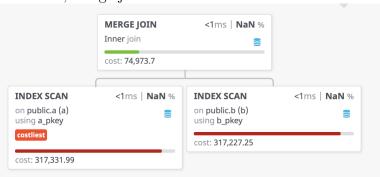
## 1 Part 1

Local		AWS	
Seconds	Bandwidth	Seconds	Bandwidth
115.4	11.1 Mbytes/second	95096.3	13.9 Kbytes/second

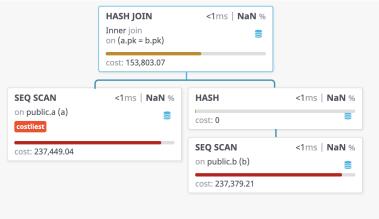
## 2 Part 2

30 million rows 7680000000 bytes or 7.15 Gbytes

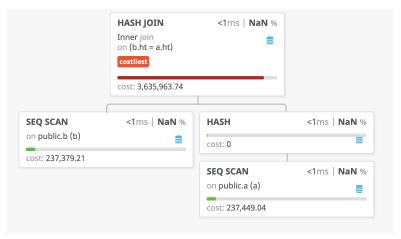
1. A Yes, merge-join is chosen.



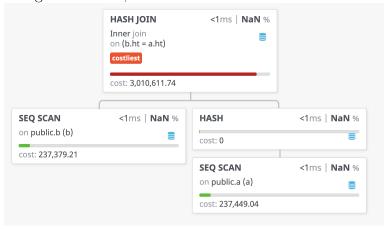
Using Select A.pk, B.pk



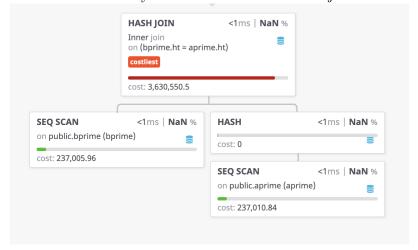
#### 2. B Hash Join



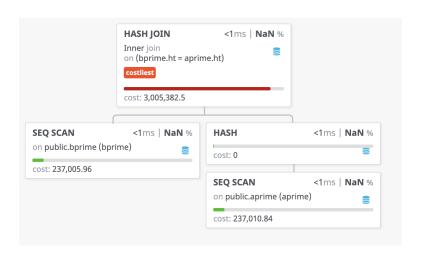
Using Select A.ht, B.ht



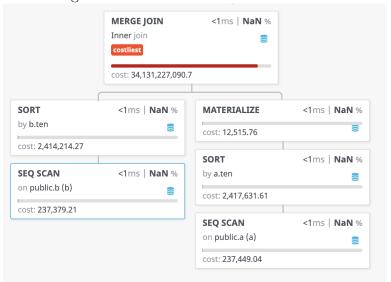
3. C The secondary index does not affect the join order and algorithm for this value.



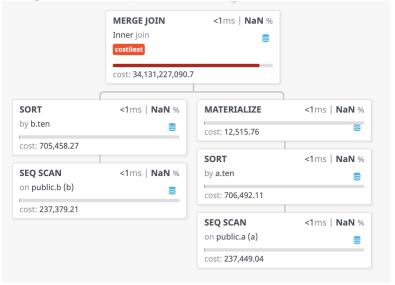
Using Select Aprime.ht, Bprime.ht



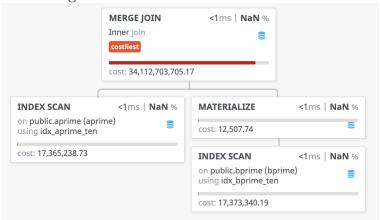
#### 4. D Merge Join was used



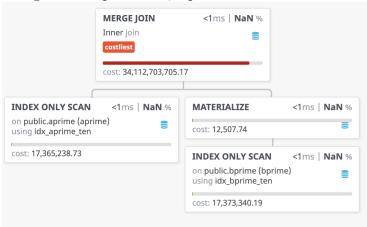
Using Select A.ten, B.ten



5. E Merge Join was used.

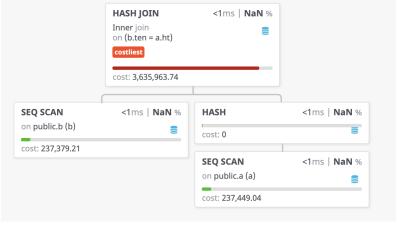


Using Select Aprime.ten, Bprime.ten

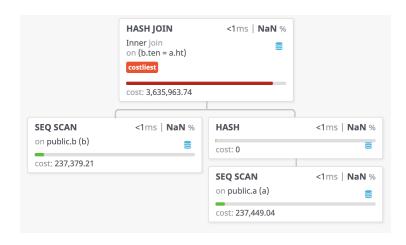


 $\mathbf{F}$  Yes the optimizer ignores the order I wrote the query, and does its own order independently.

6.

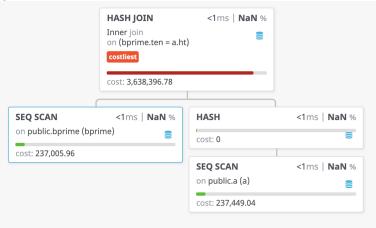


7.

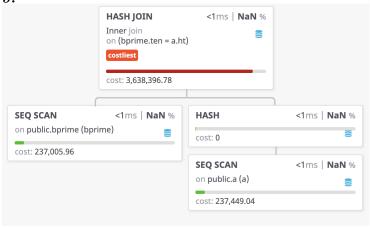


G The optimizer still does its own order for joins independent of how I wrote the query.

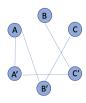
8.



9.

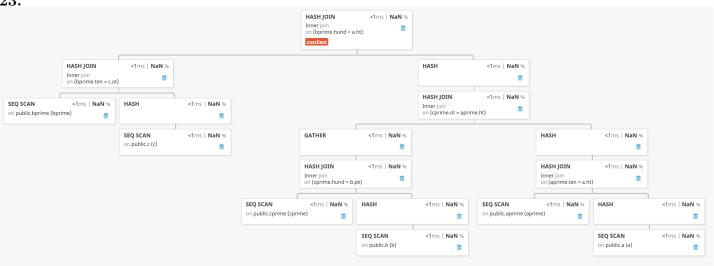


Η.

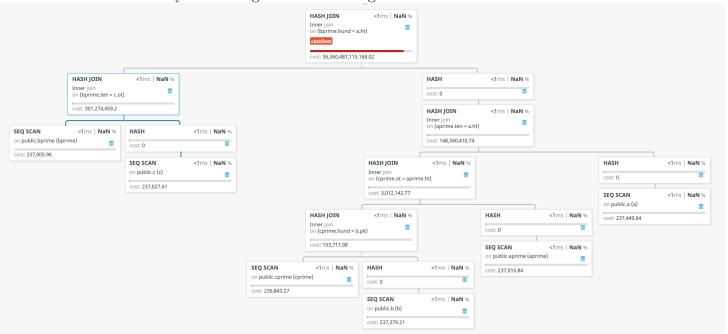


# I. 3231988424291524 rows

23.



With the select clause only containing the included arguments



Η.



### I. 18897218018647 rows

24.



With the select clause only containing the included arguments

