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* I'm using UTLXPLP.SQL for pretty printing.

Section 1

5.

Operation	Name		Rows	Bytes	Cost
SELECT STATEMENT HASH JOIN TABLE ACCESS FULL HASH JOIN TABLE ACCESS FULL TABLE ACCESS FULL	 C A B	 		399175 399175 158M 284G 150M 163M	17M 17M 1651 22578 1651

6.

4 and 5 produces same plan.

8.

Operation	_							
HASH JOIN	I	Operation	Name		Rows	Bytes	Cost	I
	- 	HASH JOIN TABLE ACCESS FULL HASH JOIN TABLE ACCESS FULL	 A	 	906M 936K 968K 890K	448G 158M 326M 150M	49494 1651 19917 1651	

9.

7 and 8 produces same plan.

11.

Operation	Name	 	Rows	Bytes	Cost
SELECT STATEMENT HASH JOIN TABLE ACCESS FULL HASH JOIN TABLE ACCESS FULL TABLE ACCESS FULL	 APRIME CPRIME BPRIME			239G 120M	14M 14M 1651 21018 1649 1652

12.

same plan.

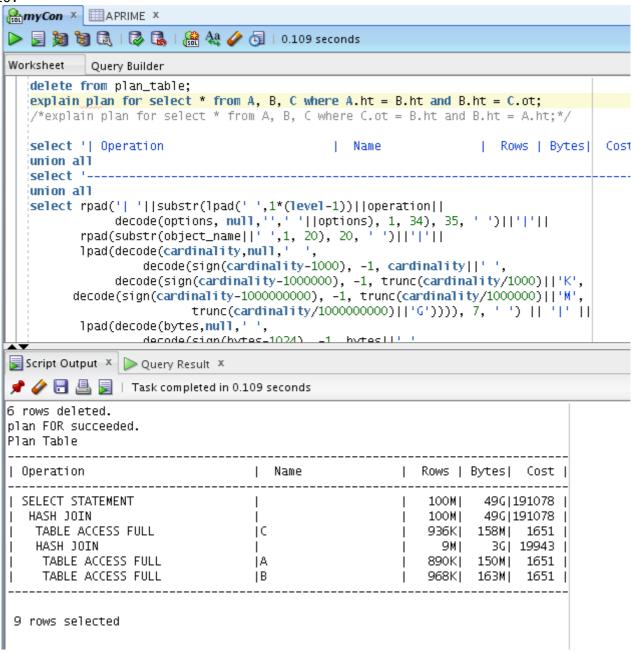
14.

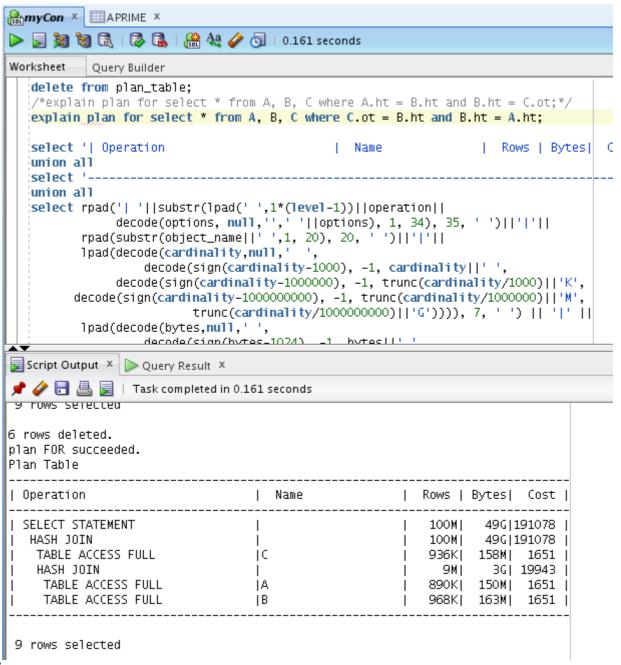
Operation	Name	Rows	Bytes	Cost

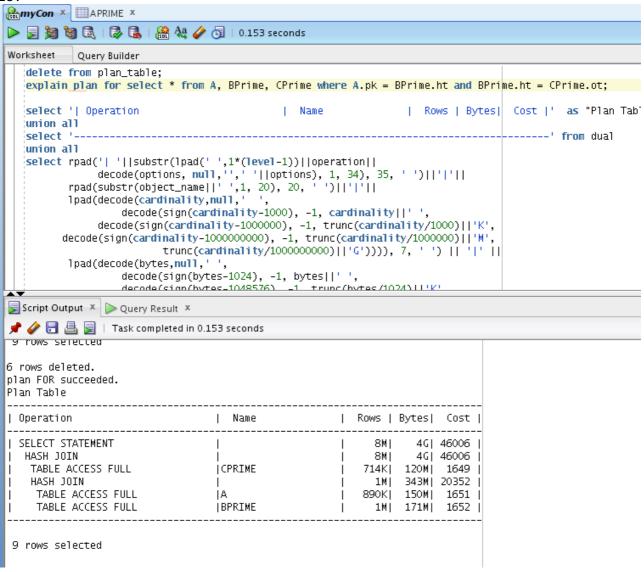
1	SELECT STATEMENT	1	726M	359G 4	8224	
Ĺ	HASH JOIN	į į	726M j	359G 4	8224	
Ĺ	TABLE ACCESS FULL	CPRIME	714K j	120M	1649	
Ĺ	HASH JOIN	į į	1M j	343M 2	20352	
İ	TABLE ACCESS FULL	j A j	890K j	150M	1651	
j	TABLE ACCESS FULL	BPRIME	1M	171M	1652	

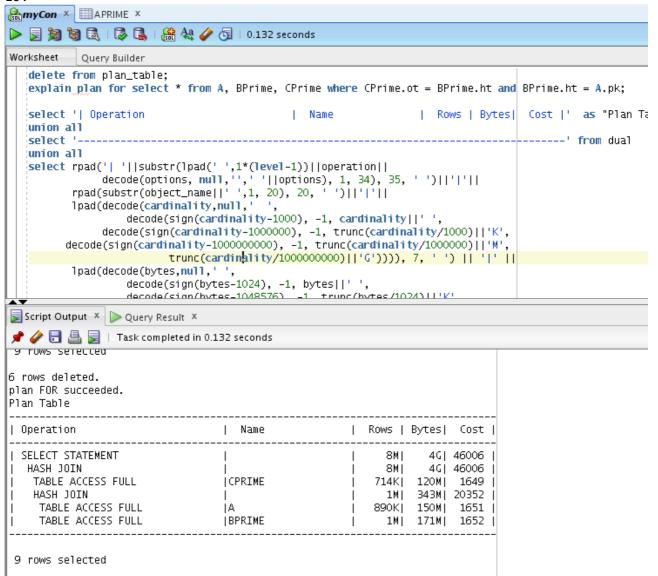
15.

same plan.









The order of the tables in from clause doesn't impact the final plan.

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١	Operation	Name		Rows	Bytes	Cost	I
	SELECT STATEMENT HASH JOIN TABLE ACCESS FULL HASH JOIN TABLE ACCESS FULL TABLE ACCESS FULL	 CDPRIME A BDPRIME	 	1M 1M 1M 1M 890K 1M	706M 706M 206M 342M 150M 171M	50512 50512 1653 20343 1651 1652	-
_							_

21.

Operation	Name	l	Rows	Bytes	Cost	
SELECT STATEMENT HASH JOIN TABLE ACCESS FULL HASH JOIN TABLE ACCESS FULL TABLE ACCESS FULL	 CDPRIME A BDPRIME		1M 1M 1M 1M 890K	706M 706M 206M 342M 150M 171M	50512 50512 1653 20343 1651 1652	

22.

20 and 21 have same plan.

The optimizer is impacted by the foreign keys constraint. As BDPrime and CDPrime both have foreign keys referencing A (pk), the query joins A with another table first. This hash join only takes 1M rows, which exactly query the rows in B (and find its referencing row in A in constant time). Otherwise, this join would take |A|*|BDPrime| rows.