SQL OPTIMIZATION

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USE WHERE FILTERS ON TABLE PARTITIONS TO MAKE USE OF PARTITION PRUNING TO READ IN LESS DATA.

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ONLY SELECT COLUMNS THAT YOU NEED - ESPECIALLY FOR COLUMNAR DATABASES SUCH AS GOOGLE BIG-QUERY.

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APPLY WHERE FILTERS IN THE SAME ORDER AS YOUR PARTITION AND CLUSTER KEYS - THIS WILL ENSURE YOU MAKE FULL USE OF ORDERED RANGES OF DATA.

Where

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CREATE PARTITIONS AND CLUSTERED INDEXES/COLUMNS BASED OFF USAGE PATTERNS - DATE AND TIMESTAMPS/DATETIME COLUMNS ARE GREAT AS PARTITIONS USUALLY TO MINIMISE THE AMOUNT OF DATA THAT'S READ, ADDITIONAL CLUSTER COLUMNS CAN BE USED FOR FREQUENTLY USED WHERE FILTERS.

Partition

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Clustered Index

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REDUCE THE AMOUNT OF DATA USED FOR TABLE JOINS USING FILTERING AND PRE-AGGREGATION WHERE POSSIBLE.

FILTERING

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PRE-AGGREGATION

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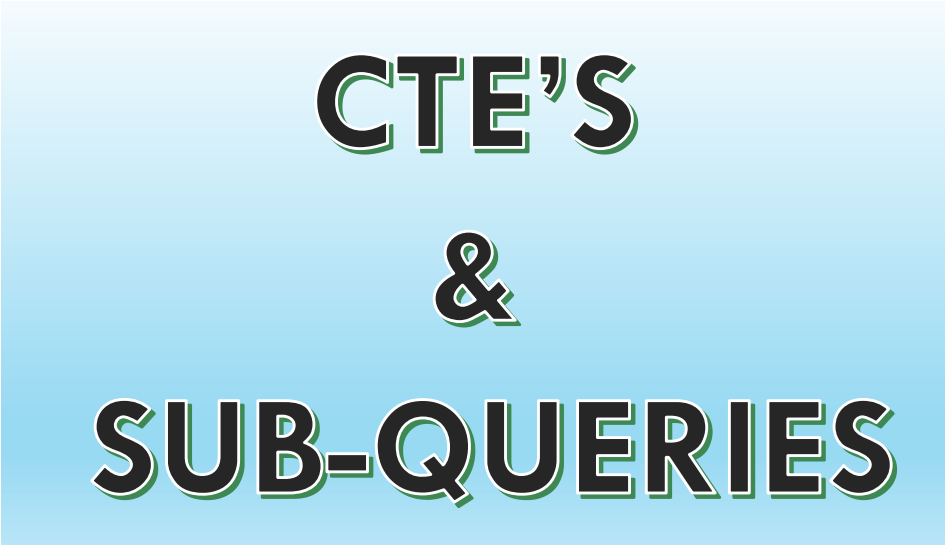
DON’T USE ORDER BY IN CTE’S OR SUB-QUERIES.



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APPLY COMPLEX TRANSFORMATIONS LATER ON WHERE POSSIBLE INSTEAD OF EARLIER IN THE QUERY - THIS SHOULD THEORETICALLY USE LESS DATA IN MOST CASES IF YOU ARE APPLYING JOINS AND WHERE FILTERS UPSTREAM!

DON'T USE SELECT DISTINCT IF POSSIBLE (USE JOIN/GROUP/CTE'S)

JOIN,GROUP,CTE

USE COUNT(1) INSTEAD OF COUNT(*)

COUNT

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JOINS THAT INVOLVE TABLES WITH ONE-TO-MANY RELATIONSHIPS, USE EXISTS RATHER THAN DISTINCT.

EXIST

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